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ABSTRACT

Over 14,000 high school seniors were studied with respect to sociocultural differences on cognitive test item responses. Six different cognitive tests and ten different groups were analyzed. The tests were: vocabulary, picture-number, reading, letter-groups, mathematics, and mosaic comparisons. The groups were: American Indians, blacks, Mexican-Americans, Puerto Ricans, other Latin-Americans, Oriental-Americans, white Northeastern, white North Central, white Southern, and white Western. Proportions of each group responding correctly to each item of each test were computed and then transformed to equal interval scales of delta-values. The delta-values for the white North Central group were then cross-plotted with each of the other groups to yield an elliptical pattern of points for each comparison. The major axis of the ellipse for each cross-plot was determined and the distance of each item point from it computed. These distances were used to create a vector index of cross-cultural stability. Items having notable patterns of instability were examined closely for factors which might explain the instabilities. It was concluded that certain vocabulary items were unstable for some Spanish-speaking groups. These vocabulary instabilities were attributed to coincidental cognate influences operating to make some English vocabulary items relatively easier for the Spanish-speaking groups. It was also observed that reading test items containing material relevant to black culture were relatively easier for blacks than were other items in the test battery. (Author/RC)

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Final Report

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CROSS-CULTURAL STABILITY OF TEST ITEMS: AN INVESTIGATION OF RESPONSE PATTERNS FOR TEN SOCIO-CULTURAL GROUPS

with exploration of an index of cross-cultural stability

Hunter M. Breland
Martha Stocking
Barbara Moretti Pinchak
Nancy Abrams[a]

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National Institute of Education

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[a] Now at Teachers College, Columbia University.

Abstract

A national random sample of over 14,000 high school seniors was studied with respect to socio-cultural differences on cognitive test item reponses. Six different cognitive tests and ten different groups were analyzed. The tests were: vocabulary, picture-number, reading, letter-groups, mathematics, and mosaic comparisons. The groups were: American Indians, blacks, Mexican-Americans, Puerto Ricans, Other Latin-Americans, Oriental-Americans, white Northeastern, white North Central, white Southern, and white Western. Proportions of each group responding correctly to each item of each test were computed and then transformed to equal interval scales of delta-values. The delta-values for the white North Central group were then cross-plotted with each of the other groups to yield an elliptical pattern of points for each comparison. The major axis of the ellipse for each cross-plot was determined and the distance of each item point from it computed. These distances were used to create a vector index of cross-cultural stability. Items having notable patterns of instability were examined closely for factors which might explain the instabilities. It was concluded that certain vocabulary items were unstable for some Spanish-speaking groups. These vocabulary instabilities were attributed to coincidental cognate influences operating to make some English vocabulary items relatively easier for the Spanish-speaking groups. It was also observed that reading test items containing material relevant to black culture were relatively easier for blacks than were other items in the test battery. Further interpretive analysis was considered to be beyond the scope of the study.

Preface

The research reported in this paper was supported in its entirety by a Small Grant from the National Institute of Education's Field Initiated Studies Program. Because of the limited funding associated with these Small Grants the studies themselves must be of a very limited nature. The present study is only an exploration into the many-faceted problem of testing in a society become increasingly concerned about equality. Since these concerns have been at the forefront of our nation's focus for several years now, a number of other studies have treated the associated testing problem in some depth and at a much greater expense than was possible here. Accordingly, it is hoped that invidious comparisons will not be made with other, more elaborate, efforts. Rather than being a comprehensive analysis, the study is intended merely to suggest a new way of thinking about test use and construction. The data used have the potential for much more exhaustive analysis, but this was not possible in view of the limited funding. Hopefully, the analyses reported will represent only a small beginning toward an understanding of this rich set of data.

Acknowledgements

Since the work reported in this paper was a spin-off from a much larger effort, it owes a great debt to the previous work. That previous work was the National Longitudinal Study of the High School Class of 1972 conducted by the Educational Testing Service for the United States Office of Education. The principal investigator of that large national survey, Thomas L. Hilton, was therefore an important contributor to the present study as were a number of others at the Educational Testing Service. Parts of the final report for the National Longitudinal Study's base year survey have been used liberally and some of the appendices taken intact. The objective in doing so was to create a complete package of all information relevant to the new analyses performed for this present study.

The following individuals provided leads and advice from time to time: William H. Angoff, Clair Bowman, Joel T. Campbell, Ronald L. Flaugher, Thomas L. Hilton, Robert L. Linn, and Elizabeth Stewart. All of their advice was not taken, however, so that the final outcome of this study should cast no aspersions on their judgment. The responsibility for the direction the study took rests entirely with the principal investigator. In addition to those persons already mentioned, Nancy S. Breland provided many long hours of constructive argument and discussion of the intricacies of item analysis, test bias studies, and other analytical issues.

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Introduction

There is a growing conviction among members of ethnic minority groups and others that traditional tests of academic achievement and tests used for employment decisions are biased in favor of a white middle-class culture. Although much research tends to discount such a belief (e.g., Stanley, 1971; Cleary, 1968; Rock, 1970; Campbell, Crooks, Mahoney, and Rock, 1973), there is no doubt that some items on some tests are more difficult for some sociocultural groups. This point was emphasized by Green and Draper (1972):

> As a matter of fact we do know that most academic tests, both aptitude and achievement, yield consistently higher scores for one set of groups in society in contrast to various other groups such as poor people, blacks, and Chicanos (Coleman, 1966). Some people overgeneralize these results to indicate that the latter groups are inferior to the former. In so doing they are assuming the tests are fair and unbiased. [p. 5]

What the words "fair" and "unbiased" mean, however, has proven to be difficult to define. Green and Draper note:

> A biased test is popularly understood to be a test which is unfair to identifiable subgroups of the general population in which it is being used. Although many people seem to believe the matter is simple, little is actually known about the nature of bias in tests and even the most widely accepted propositions badly need verification. [p. 1]

This kind of confusion led Darlington (1971) to propose that the concept of "cultural fairness" be replaced by a concept of "cultural optimality." No terminology, however, replaces the need for a careful consideration of the way in which a specific test (or portion thereof) is used. In the words of Thorndike (1971):

> Since there are many different uses that can be made of a particular test or inferences that can be based upon it, it is entirely possible that one use or inference is fair while another is grossly unfair. [p. 63]

As an example of unfair test use, Thorndike presented the following hypothetical item:

The usual temperature for baking a cake is about:

(A) 250° (B) 300° (C) 350° (D) 400°

In terms of the proportion of correct responses that would probably be obtained were such an item administered, the item would seem unfair to males, since they spend less time cooking than do females. Thus, if this item were used as part of a college admissions test, it would clearly seem inappropriate. But if it were used as part of a test to select persons for employment as bakers, then the item would at least have face validity.

Rather than considering individual items, the more common approach has been to consider entire tests. Attempted statistical definitions of test bias have been approached by two basically different methods: those using criteria external to the test, and those using only internal criteria (Potthoff, 1972). Methods employing external criteria generally involve use of test scores for prediction of some future success. Cleary (1968) has provided a widely accepted definition of test bias which compares regression equations of test scores on criterion for different groups. She states:

> A test is biased for members of a subgroup of the population if, in the prediction of a criterion for which test was designed, consistent nonzero errors of prediction are made for members of the subgroup. In other words, the test is biased if the criterion score predicted from the common regression line is consistently too high or too low for members of the subgroup. With this definition of bias, there may be a connotation of "unfair," particularly if the use of the test produces a prediction that is too low.

Thorndike (1971) demonstrated that a test which would be fair by Cleary's definition may be unfair by another standard. He has shown that when mean differences between two groups on the predictor are large relative to mean differences on the criterion, even when regression lines for the two groups are equal, the test would select a smaller proportion of the low scoring group than the proportion who actually could have been successful on the criterion. According to Thorndike (1971) a fair test must select a proportion of the minority group which is equal to the proportion who would actually succeed on the criterion. This may necessitate the lowering of critical cut-off points for selection for some minority groups.

Cole (1972) approaches test bias by examining decision errors for various groups. The proportion of false positives (those with acceptable predictor scores and unacceptable criterion scores) to false negatives (those with unacceptable predictor scores and successful criterion scores) should be the same in all groups if the test is "fair."

Comparative studies of these and other definitions of test bias (Linn, 1973; Darlington, 1971) show that the previously mentioned approaches are contradictory. The enigmas encountered in the external criterion approach have been further clarified by Reilly (1973). A test which may be fair by one definition may be unfair by another. Therefore, a single statistical solution to the problem of test bias derived from the comparison of tests to an external criterion seems impossible. Considering that the external criterion, itself, may be biased (see Campbell, et al.,1973) leads one to question this entire approach. Both Darlington (1971) and Linn (1973) conclude that statistical solutions alone are not sufficient to solve the test bias problem--some value judgments must be made. Darlington proposes the concept of the "culturally optimal test" which balances cultural differentiation with validity and which employs both subjective policy level decisions and empirical statistical information.

An alternate approach to the definition of cultural bias attempts to make some statistical statement about the items in a test without information other than that obtainable from the test items themselves. The methods used by Cleary and Hilton (1968), Echternacht (1972a, 1972b), Angoff and Ford (1973), Angoff (1972), Angoff and Modu (1973), and Cardall and Coffman (1964) essentially compare item difficulties across cultural groups. Those items which are either unusually easy or unusually difficult for one group in relation to another group are examined. If many items are unusual across several group comparisons, the test is said to be biased. While these studies are labeled studies of "item bias," they rarely attempt to analyze sources of deviation for outstanding items. The attempt has been usually to make some inference about the test as a whole by demonstrating the existence or lack of existence of a significant item by group interaction. Individual items are not considered in a subjective sense nor are the possible sources of bias in any one individual item explored.

Those few papers that do consider individual items most often attempt to define some mechanical procedure with which "biased items" may be detected. Given the importance of the use to which items (or entire tests) are put, no entirely mechanical procedure would seem likely to gain acceptance. It is the objective of the present study to explore the problem of cross-cultural stability of test items with a combined mechanical and subjective approach in much the same way as Darlington combined the mechanical and subjective in thinking about entire tests. The procedure is, first, to compute an index (mechanically) which is useful in detecting especially unstable items and then to apply subjective analyses to determine what, if anything, characterizes these items. Similarly, items may also be detected because of their apparent stability. Subjective judgments are then used to characterize these items.

The procedure used is similar to that used by Angoff and Ford (1971). They compared several samples of black and white students drawn from the 1970 PSAT (Preliminary Scholastic Aptitude Test) administration in Georgia. Item analyses were conducted for each sample and item difficulty cross-plotted for pairs of samples. As a measure of item x group interaction, they used the correlation of item difficulties (the lower the correlation, the more the interaction). Angoff and Ford concluded that the findings were sufficiently provocative to deserve more detailed study. Like the cross-plots of Cleary and Hilton, those of Angoff and Ford also indicated a number of items that appeared to be especially difficult for blacks. Angoff and Ford suggested a need for studies with larger samples than those they had used. This remark of theirs is of special interest:

> Further editorial examination of the items that were especially harder for the blacks suggested, as one would expect, particular difficulties with vocabulary and concepts pertaining to unfamiliar places and experiences, and possibly also to confusion with special meanings and significances characteristic of the ghetto.

The same kinds of phenomena were discussed by Taylor (1971) in an entirely different context (that of speech difficulties) and from a different disciplinary viewpoint (socio-linguistics). Deemphasizing the importance of the ghetto, Taylor traced the evolutionary history of Black English and showed how, because of a different long-term cultural development, Black English is very different from what is sometimes called Standard English. The position of Taylor is important in that it challenges the so-called social deprivation theory (that blacks simply have underdeveloped language and cognitive abilities) by emphasizing that Black English (implying a language more deeply rooted than "hip talk") is very different from Standard English. Taylor also indicated that there are probably several types of English among whites living in the continental United States. Southern White English has strong similarities to Black English; however, Standard English is very different from either Black English or Southern White English. Since it is well known that white southerners also tend to score low on standard achievement tests, this observation of Taylor is especially noteworthy.

If strong differences exist between Black English and Standard English, and even among different types of American English, then the linguistic patterns of American Indians, Mexican-Americans, Puerto Ricans, and Oriental-Americans might be expected to differ as well. Armstrong (1972) had members of several ethnic groups rate test items as to the degree they believed them to be biased against their group. Within ethnic groups, he found surprising agreement on which items were biased. But the items considered to be biased varied considerably from one ethnic group to another. Accordingly, Armstrong's research would support Taylor's theory. Armstrong, however, conducted no analyses of data from test administrations for these different ethnic groups.

A recently collected, and extensive, set of data has afforded the opportunity for conducting the present study. These data are those from the National Longitudinal Study of the High School Class of 1972.[1] In this sample of over 17,000 high school students, special attention was paid to the problem of insufficient numbers of cases for minorities so that adequate data were obtained for analyses relating to minorities. With such a large number of cases and detailed classifications by ethnic group, region, and other identifying criteria, these data are ideal for the study of the problem of cross-cultural stability of test items. The cognitive tests used in the

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[1] Conducted for the U.S. Office of Education by the Educational Testing Service under Contract No. EC-0-72-0903

National Longitudinal Study (NLS) cover a wide range of abilities and item presentation styles. Moreover, the care with which the sample was taken offers the potentiality of generalization to the nation as a whole.

An exploratory development of a procedure for computing an index of cross-cultural stability was conducted. Some characteristics of items so detected, obtained from a subjective analyses of the items, are presented. The possibility of using the same technique, cumulatively, to describe entire tests with respect to their cross-cultural stability is also considered. Beyond a brief consideration of the causal factors underlying the item instabilities presented, a need exists for generalizations about these causal factors. It is believed that these generalizations are best attempted by those who belong to the specific socio-cultural group to which the instabilities relate or by those, such as socio-linguists, who have studied such problems. Accordingly, it is hoped that the ethnic scholars and others to whom this report is being disseminated will attempt these generalizations.

The Sample

The data used in the project were recently collected as a part of the NLS. This study was based on a stratified two-stage probability sample. Schools were selected nationwide, with known probabilities, by WESTAT Corporation, from universe listings of schools retained by the U. S. Office of Education. The population was stratified by a set of eight variables: (1) public or nonpublic, (2) geographic region, (3) enrollment size class, (4) proximity to institutions of higher education, (5) percent minority, (6) income level of the community around the school, (7) school type--where Type A represented schools of low income or high minority classification, and Type B represented all others--and (8) degree of urbanization. Altogether, 600 final strata were defined and Type A schools were selected at twice the sampling rate of Type B schools to produce a final sample of 1,200 schools, two from each final stratum.

Within each cooperating sample school, a random sample of students in grade 12 (or its equivalent) was taken by Educational Testing Service from lists of all such students provided by the school. Where possible, 18 students were selected. Occasionally, noncooperating students or small school enrollments resulted in fewer than 18 students being included in the final sample.

A few kinds of schools and students were excluded from the study. Excluded schools consisted mostly of schools for physically or mentally handicapped students, schools for legally confined students, and schools which did not enroll students of their own (such as area vocational schools having students enrolled in other schools). Included schools were required to be within the 50 states and the District of Columbia. Excluded students consisted of early graduates, adult education students, and students who in the view of their school would be harmed by the experience of the project. The final count of students involved in the study was 17,726, and these represented 1,044 different high schools.

Instruments

The instruments examined were those used in the National Longitudinal Study Sample. Test items from the battery are included as Appendix A of this report. Appendices B and C, respectively, are the Answer Sheet used with the test battery and the Survey Administrators Guide (which describes the procedures used in administering the test). The sequential order of the tests, described in detail below, was: Vocabulary, Picture-Number, Reading, Letter Groups, Mathematics, and Mosaic Comparisons. This sequence was chosen because it interspersed the three more conventional and the three more novel tests, an arrangement that provides interest and motivation for the examinees. Vocabulary was chosen for the first position because of the inherent simplicity of this test's format and directions. At the outset, it was believed that the Vocabulary Test should build the confidence of the students in their capability to perform well. Because it is quite speeded, Mosaic Comparisons was placed last to prevent any anxiety that might be engendered by this speededness from persisting in later test sections.

The composition of the NLS battery represented a balancing of somewhat opposing considerations. The primary objective was to obtain a comprehensive description of persons whose backgrounds, ethnic affiliations, and socioeconomic status are quite diverse. At the same time, the need for various measures had to be balanced with the requirement of using a battery of reasonable length. Lengthy tests are a nuisance to schools that must schedule time to administer them and to students who must endure them without significant fatigue or loss of interest. For this reason, the battery was held to 69 minutes of testing time plus 36 minutes of

Table 1

NLS Test Battery Properties

Test	Time in minutes	Number of items	Number of options	Scoring formula	Formula scores		Speededness			Reliability	Standard error of Measurement	Statistics based on: Sample	n
					Mean	Standard deviation	Percent of items completed	Percent of sample Completing 75% of items	Item Reached by 80% of sample				
Vocabulary	5	15	5	R-W/4	7.82	3.64	90	99	15	.70	2.0	Students tested in April, 1969, before their entry to two-year colleges	2,765
Picture Number	10	30	10	R-W/9	18.4	7.61	77	99	29	.85	3.0	Students tested in April, 1969, before their entry to two-year colleges	2,710
Reading	15	20	5	R-W/4	9.0	4.0				.70	2.2		
Letter Groups	15	25	5	R-W/4	16.2	5.10	44	90	21	.80	2.3	Students tested in April, 1969, before their entry to two-year colleges	2,780
Mathematics	15	25	4	R-W/3	13.0	4.2				.70	2.3		
Mosaic Comp.	9	116			43.5	14.9				.77		Students tested in 1968, before their entry to two-year colleges	1,740
Section I	(3)	56	3	R-W/2	(19.7)	7.6	1	2	16				
Section II	(3)	33	4	R-W/3	(13.7)	5.3	1	4	12				
Section III	(3)	27	5	R-W/4	(10.1)	4.5	1	5	9				
	69												

administrative time for a total of 105 minutes. Table 1 provides a summary of the properties of the battery.

An ETS optical scanning system (SCRIBE) was used in processing the test answers, which students entered on a separate answer sheet (Appendix B). This process thus maintained a uniform procedure with previous use of the test components, rather than introducing another process variable by having students indicate answers by some other procedure, such as circling or directly marking answers in test books.

To conserve testing time, some of the tests used in the NLS battery were shorter than the parent versions from which they were derived. The tests were originally designed to yield reliability coefficients appropriate for use with individual students. However, the tests used in NLS were not intended for making decisions about individuals; rather, they were used as group measures, wherein the reliability of the mean scores for various samples or subgroups was the critical consideration. In such situations, the error variance of a mean is only $1/N^{th}$ the error variance associated with an individual score. Thus, the tests in the battery, with estimated reliabilities ranging from .70 to .85, yield highly reliable measurements of the mean. A brief description of each test section and a summary of its psychometric properties follow.

Vocabulary. A brief test using synonym format consisting of items drawn from the longer Project Access Vocabulary Test. The 15 items selected were intended to avoid academic or collegiate bias and to be of an appropriate level of difficulty for the NLS twelfth grade population. Verbal ability is known to be related to performance in most academic pursuits as well as professional and semiprofessional occupations. The straightforward vocabulary synonym test is the best and most well-documented measure of this verbal ability. Evidence for the predictive validity of the Vocabulary Test is given in Table 2. Median correlations between Vocabulary Test scores and first-term grade-point averages of students enrolled in various curriculums within two-year community colleges are in the range of 20 to 40. The Vocabulary Test has also been related to subsequent performance in specific entry-level English courses at community colleges (Ford, 1970). The median correlation represented between the Vocabulary Test and freshman English courses within 38 community colleges was .26 with a range of validity of .08 to .40, depending upon the specific college considered.

Picture-Number. Consists of a series of drawings of familiar objects, each paired with a number. The student, after studying the picture-number pairs, is asked to recall the number associated with each object. This test appeared in both the CGP and Project Access batteries. The inclusion of the Picture-Number Test represents acknowledgment of a line of research that suggests that populations low in economic status have relatively higher mean scores in associative memory than in other types of ability (Semler & Iscoe, 1963; Rohwer, et al., 1968; Jensen, 1969). Further recent theoretical developments would suggest that such abilities can be utilized in increasing the school achievement of this same group (Rohwer, 1971). Predictive validity information is not currently available. However, the test does have face validity based on the references cited above.

Reading. Based on short passages (100-200 words) with several related questions concerning a variety of reading skills (analysis, interpretation) but focusing on straightforward comprehension. The Reading Test draws upon items of particular relevance to minority group students taken from the

Table 2

Median Correlations of Parent Tests of NLS Battery with Freshman Grade Averages Obtained in Various Community College Curricula*

—Median correlations of CGP tests with freshman grade averages obtained in various community college curricula*

		College parallel				Occupational-technical					Occupational-vocational					
Tests		Lib. arts	Sci. & pre-eng.	Fine arts	Agric.	Sci. & eng.	Business	Health	Comm. arts	Other	Mech.	Business	Health	Art skills	General/ devel.	Unclas.
Reading	Median r	.32	.29	.21		.31	.36	.39		.33	.14	.14	.31		.25	.20
	# Groups	27	15	5	2	16	24	7	2	6	4	3	3	1	3	11
	Range Low	.13	-.10	.13	.37	.05	-.02	.01	.22	.10	.07	.02	.31	-.04	.17	-.19
	High	.70	.49	.43	.61	.52	.52	.63	.36	.45	.44	.46	.47		.26	.36
	# Sig. r's[a]	23/0	8/0	1/0	2/0	8/0	21/0	5/0	1/0	4/0	1/0	1/0	2/0	0/0	1/0	4/0
Vocabulary	Median r	.34	.24	.23		.22	.32	.42		.33	.16	.31	.30		.18	.23
	# Groups	27	15	5	2	16	24	7	2	6	4	3	3	1	3	11
	Range Low	.05	-.18	.08	.42	-.20	-.18	.33	.02	.18	.10	.16	.21	.02	.10	-.08
	High	.61	.49	.27	.44	.48	.55	.69	.47	.44	.26	.52	.50		.29	.38
	# Sig. r's[a]	24/0	7/0	0/0	2/0	7/0	17/0	5/0	1/0	3/0	1/0	1/0	2/0	0/0	1/0	4/0
Mathematics	Median r	.25	.25	.24		.41	.26	.33		.28	.24	.40	.24		.11	.14
	# Groups	27	15	5	2	16	24	7	2	6	4	3	3	1	3	11
	Range Low	-.03	.07	.10	.16	.06	.01	-.13	.09	.23	.17	.03	.06	.03	.04	-.29
	High	.58	.66	.44	.68	.59	.51	.61	.17	.46	.46	.50	.36		.26	.34
	# Sig. r's[a]	15/0	9/0	1/0	1/0	11/0	14/0	4/0	0/0	3/0	4/0	2/0	1/0	0/0	1/0	4/0
Letter Groups	Median r	.23	.24	.11		.14	.37									.01
	# Groups	13	6	3	1	5	11	2	0	1	1	1	1	0	1	5
	Range Low	.08	-.03	.08	-.06	-.18	.04	-.10		.32	.24	.36	.18		.07	-.29
	High	.65	.33	.46		.21	.53	.23								.43
	# Sig. r's[a]	8/0	2/0	1/0	0/0	0/0	9/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	1/0

[a] Number of correlations above .20 and significant at .05 level:

x/y
x = number significant and positive
y = number significant and negative

Source: Hilton & Rhett (1973)

* Data from 1967-68 academic year

Project Access Reading Test. The Reading Test was included for two purposes. It is a direct measure of skill used widely throughout the educational system and thus has good face validity and widely-recognized importance. The pattern of validity coefficients for the Reading Test against the criterion of freshman grade average is, as would be expected, similar to that for vocabulary (Table 2).

Letter Groups. This test requires the student to draw general concepts from sets of data or to form and try out hypotheses in a nonverbal context. The items consist of five groups of letters among which four groups share a common characteristic while the fifth group is different. The student indicates which group differs from the others. As a test of inductive reasoning, the test measures one of the four aptitudes (verbal, quantitative, reasoning, and spatial/perceptual) which have considerable precedent in representing the varieties of cognitive skills. Tests of inductive reasoning have, in particular, been shown to be useful in research involving minority ethnic groups (Lesser, Fifer, & Clark, 1965; Stodolsky & Lesser, 1967; Flaugher, 1971). This test, in combination with the Mathematics Test that was included in the battery, provided a measure of the reasoning capacity of students. Unlike the Mathematics Test, however, the Letter Groups Test seems to be less dependent on knowledge obtained in a formal education setting; thus, it may offer an opportunity for inner-city and minority group students who come from poor educational backgrounds to demonstrate their reasoning abilities without regard for the lack of educational and mathematical training they may have had. The predictive validity for the Letter Groups Test is particularly good for predicting performance in courses involving business and office-related occupational training. A median correlation of .37 among 11 community colleges was found between the Letter Groups Test and freshman grade performance in occupational-technical programs in business (Table 2).

Mathematics. Consists of quantitative comparisons in which the student indicates whether two quantities are unequal (and which is greater), unequal or not ascertainable from the information given. This type of item is relatively quickly answered and provides measurement of basic competence in mathematics while minimizing the amount of time required for actual computation. The test is a shortened version of the Project Access instruments but omits those items that tap algebraic, geometric, or trigonometric skills. The parent test from which the NLS Mathematics Test was derived shows potency in predicting community college course grades (Ford, 1970). In addition, the predictive validity of the SAT and Mathematics Test, mathematics scores in the NLS battery may be linked, has been thoroughly documented (Angoff, 1971).

Mosaic Comparisons. Measures perceptual speed and accuracy through items which require that small differences be detected between pairs of otherwise identical mosaics or tile-like patterns. A deliberately speeded test, it has three separately timed sections consisting of increasingly more complex mosaic patterns. Mosaic Comparisons represents another of the fundamental measures used in many studies of aptitudes among minority groups. Tests like this which represent the spatial/perceptual domain seem, more than tests in the other domains considered, to allow students from minority groups an opportunity to perform better than majority group students. The Mosaic Comparisons Test, unlike many other spatial/perceptual scanning measures, is simple for the student to understand. Its predictive validities with performance in occupational-technical two-year career and one-year career business programs at the community college level were .28 and .42

respectively. These correlations represent median values across a number of different colleges. In addition to predictive validity in the career business area, the Mosaic Comparisons Test has shown a median correlation of .23 with the freshman grade performance of students enrolled in college-parallel fine arts curriculum.

Method

The sample was first divided into ten mutually exclusive groupings as follows:

1. American Indian
2. Black or Afro-American or Negro
3. Mexican-American or Chicano
4. Puerto Rican
5. Other Latin-American or of Spanish Origin
6. Oriental or Asian-American
7. Northeastern White or Caucasian (10% random sample)
8. Southern White or Caucasian (10% random sample)
9. North Central White or Caucasian (10% random sample)
10. Western White or Caucasian

Item analyses were then conducted for each group of subjects so defined. The item analyses were performed using a procedure outlined by Angoff & Ford (1973). In this procedure, the proportion of a sample or sub-sample answering a given item correctly (known as the "*p*-value") is first calculated. The p-values are then transformed to an equal interval scale by replacing them with their normal-curve equivalents (called normal deviates). Because the normal deviates have a range from -1 to +1, these are often subjected to a further transformation so as to eliminate negative values. In the Angoff and Ford procedure, the normal deviates are transformed to delta-values by the linear transformation, $\Delta = 4z + 13$.

It should be noted that item difficulties computed by the above procedure ignore what are, at times, important factors. One factor ignored is that related to the position of an item in a test. Items occurring near the end of a test will have fewer correct responses merely because fewer examinees attempted them. The greater the importance of time in the test (i.e., the higher the "speededness" of the test), the greater the importance of this item position factor. In the test battery used for the National Longitudinal Study only the Mosaic Comparisons Test is highly speeded. For this reason, only the first 20 items of the second of three parts of the Mosaic Comparisons Test were used in the anlaysis. No item analysis procedure, however, precludes the necessity of subjective information with which to judge the validity of the statistical computations. Accordingly, item analyses reported in this study are accompanied by descriptive information concerning the item, including its position in the test or subtest, the proportion of persons for each group answering the item, and the item itself, where test security limitations permit.

Having computed the item deltas for each item and for each of the ten mutually exclusive groups given above, the next step in the procedure was to cross-plot the deltas for nine of the groups in contrast to a tenth group (North Central White or Caucasian). For each cross-plot, the group being examined was placed on the abscissa and the delta values for the North Central White group on the ordinate. These cross-plots normally result in a narrow elliptical pattern with the major axis extending from the lower left to the upper right, very much in the same way as scatter-plots of predictive single observations used in correlational analysis. One should note, however, that the points in the cross-plots under discussion represent large numbers of observations (each point represents two delta values and each delta value was determined from the total of all encounters with the item by the group it represents). Thus it is not unusual to find that when a correlational analysis is performed on points so derived, that the correlational values obtained are typically as high as .98 or .99. Where the two groups being compared are very different the correlations will not be quite so high. In the present analysis, the line of best fit used was the major axis of the elliptical patterns of points rather than the least squares regression line usually involved in correlational analysis.

An important feature of the major axis is that it indicates the general degree of difficulty of all items taken together for a given group. If all items, on the average, are of equal difficulty for both groups being contrasted, then the major axis will have a slope of 1.0 and an intercept (projected) of zero. If the items in general (that is, the whole test) are more difficult for the group plotted on the abscissa, then the regression line will have an intercept less than zero. And if a test is easier for the group whose delta values are plotted on the abscissa, the intercept will be greater than zero. The slopes of these more and less difficult lines may be different from 1.0.

Cross-culturally unstable items are those with the most aberrancy around the line of best fit for a particular group. Using the symbols x and y to represent the delta values for two groups being contrasted and using the slope-intercept form of representation for a straight line, $y = ax + b$, and where the constants a and b are determined as

$$a = \frac{(s_y^2 - s_x^2) \pm \sqrt{(s_y^2 - s_x^2) + 4r_{xy}^2 s_x^2 s_y^2}}{2r_{xy}s_x s_y}$$

and $b = M_y - aM_x$,

the major axis of the ellipse representing any contrast is defined. The symbols M and s above represent the mean and standard deviation, respectively, r the correlation between the deltas for the two groups, and the subscripts x and y the abscissal and ordinal coordinates. The perpendicular distance, d_i, of each point, i, in the cross-plot to this major axis is given as

$$d_i = \frac{ax_i - y_i + b}{\sqrt{a^2 + 1}}$$

When $d_i = 0$ for a particular item, then the item is perfectly stable with respect to the two groups being contrasted. When $d_i > 0$, the item tends to be more difficult for the group on the ordinate than were most other items of the same test for the same group. Such an item would be said to be positively unstable. If $d_i < 0$, then the item tends to be more difficult for the group on the abscissa than were most other items of the same test for the same group. Of course, extremely small deviations from zero are of little practical significance and could be due to random fluctuations about the regression line. When a number of groups are being compared to some common group, a vector of d_i's results since there will be one d_i for each group.

Classification Variables

Classification variables were used to categorize participants as well as to indicate fundamental differences among groups being compared. These variables were obtained from NLS survey questionnaires as follows:

Sex. Sex of participants was obtained from the NLS Student Questionnaire. Those survey students who did not respond to this item or did not return a Student Questionnaire could not, of course, be classified with respect to sex.

Ethnicity. The ethnicity of participants was obtained from item 84 of the NLS Student Questionnaire (reproduced below). All participants who omitted the item or did not return the Student Questionnaire or did not take the NLS test battery were excluded from the study.

84. How do you describe yourself?

	(Circle one.)
American Indian	1
Black or Afro-American or Negro	2
Mexican-American or Chicano	3
Puerto Rican	4
Other Latin-American origin	5
Oriental or Asian-American	6
White or Caucasian	7
Other	8

Language Spoken in Home. The language spoken most often in the home (English or not English) was obtained from item 88 of the NLS Student Questionnaire as indicated below.

88. Is English the language spoken most often in your home?

	(Circle one.)
No	1
Yes	2

Time in Community. Time in community was obtained from item 89 of the NLS Student Questionnaire as indicated below.

89. How long have you lived in the community in which you now live?

	(Circle one.)
All my life	1
Ten or more years	2
Five to ten years	3
Three to four years	4
One to two years	5
Less than one year	6

Parents' Educational Level. Father's education and mother's education was obtained from item 90 of the NLS Student Questionnaire, duplicated below.

90. What was the highest educational level each of the following persons completed? If you are not sure, please give your best guess.

(Circle one number in each column.)

	Father or male guardian	**Mother or female guardian**	**Oldest brother or sister**
Doesn't apply	1	1	1
Did not complete high (secondary) school	2	2	2
Finished high school or equivalent	3	3	3
Adult education program	4	4	4
Business or trade school	5	5	5
Some college	6	6	6
Finished college (four years)	7	7	7
Attended graduate or professional school (for example, law or medical school), but did not attain a graduate or professional degree	8	8	8
Obtained a graduate or professional degree (for example, M.A., Ph.D., or M.D.)	9	9	9

Parents' Income. Parents' income was obtained from item 93 of the NLS Student Questionnaire as indicated below.

93. What is the approximate income before taxes of your parents (or guardian)? Include taxable and non-taxable income from all sources.

	(Circle one.)
Less than $3,000 a year (about $60 a week or less)	01
Between $3,000 and $5,999 a year (from $60 to $119 a week)	02
Between $6,000 and $7,499 a year (from $120 to $149 a week)	03
Between $7,500 and $8,999 a year (from $150 to $179 a week)	04
Between $9,000 and $10,499 a year (from $180 to $209 a week)	05
Between $10,500 and $11,999 a year (from $210 to $239 a week)	06
Between $12,000 and $13,499 a year (from $240 to $269 a week)	07
Between $13,500 and $14,999 a year (from $270 to $299 a week)	08
Between $15,000 and $18,000 a year (from $300 to $359 a week)	09
Over $18,000 a year (about $360 a week or more)	10

Community Size. School community size was obtained from item 40 of the NLS School Questionnaire. This item, duplicated below, was completed by the NLS Survey Administrators in the schools participating in the NLS.

40. Which of the following best describes the location of this school?

	(Circle one.)
In a rural or farming community	1
In a small city or town of fewer than 50,000 people that is not a suburb of a larger place	2
In a medium-sized city (50,000–100,000 people)	3
In a suburb of a medium-sized city	4
In a large city (100,000–500,000 people)	5
In a suburb of a large city	6
In a very large city (over 500,000 people)	7
In a suburb of a very large city	8

Geographic Classifications. The four geographic divisions of the United States, as defined by WESTAT Corporation, were used. The states included in each division were as follows:

(1) Northeast (Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, and Pennsylvania).

(2) North Central (Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, and Kansas).

(3) South (Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, Kentucky, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, and Texas).

(4) West (Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah. Nevada, Washington, Oregon, California, Alaska, and Hawaii).

Sample-Description by Groups

The original sample of 17,726 cases was reduced to 14,828 cases by the requirement that each case to be analyzed have both an NLS Student Questionnaire and an NLS Student Test Book answer sheet. The distribution of these cases by socio-cultural group, sex, and primary language spoken in the home (English or other) is given in Table 3. For a few of the cases there was no response to the sex and language spoken questions and for this reason the figures do not add to the totals in Table 3. Within the groups, the distribution of males and females appears to be relatively uniform. Major differences occur, however, with regard to language spoken in the home. More Puerto Ricans (39) said that English was not the primary language spoken in the home than said that it was (38). A very large proportion of Other Latins (48) reported that English was not the primary language spoken in the home as compared to those who said that it was (56). The same was the case for Mexican-Americans (214 not English vs. 262 English). For the other groups, only small proportions said that English was not the primary language spoken in the home.

Table 4 shows summary data (means and standard deviations) for socioeconomic variables, degree of urbanization, and time in community for all groups and the total. The White Western group reported the highest mean father's education and the Mexican-American group the lowest. The same contrast occurred with respect to mother's education with White Western highest and Mexican-American lowest. For parents' income, however, Puerto Ricans' were lowest. School community size was highest for Puerto Ricans and lowest for American Indians.

Table 3

Distribution of Cases by Socio-Cultural Group

Groups	Males	Females	Home Language Not English	Home Language Primarily English	Total
American Indian	91	85	24	151	178
Afro-American	826	1,051	157	1,720	1,895
Mexican-American	251	235	214	263	491
Puerto Rican	39	40	39	38	79
Other Latin	49	56	48	56	107
Oriental	93	82	52	122	176
White Northeastern	1,278	1,499	189	2,603	2,798
White North Central	1,848	1,717	224	3,356	3,589
White Southern	1,793	1,740	230	3,319	3,557
White Western	1,023	921	111	1,843	1,958
Total	7,291	7,426	1,288	13,471	14,828

Table 4

Summary Data on Socio-Economic Variables, Degree of Urbanization, and Time in Community

Group	Father's Education	Mother's Education	Parents' Income	School Community Size	Time in Community
			Means		
American Indian	3.02	2.94	4.92	3.24	2.27
Black	2.87	3.18	3.17	4.26	2.44
Mexican-American	2.56	2.45	3.57	3.57	1.94
Puerto Rican	2.58	2.56	2.85	6.41	2.79
Other Latin American	3.82	3.50	4.45	5.23	2.94
Oriental	4.23	3.80	5.89	4.09	2.49
White Northeastern	4.10	3.71	6.15	3.86	1.95
White North Central	3.98	3.72	5.94	3.41	1.96
White Southern	4.06	3.68	5.69	3.39	2.26
White Western	4.61	4.10	6.40	3.90	2.39
Total	3.94	3.65	5.50	3.70	2.17
			Standard Deviations		
American Indian	1.85	1.56	2.90	2.29	1.36
Black	1.68	1.73	2.37	2.32	1.53
Mexican-American	1.55	1.28	2.47	2.36	1.28
Puerto Rican	1.39	1.42	1.61	1.51	1.56
Other Latin American	2.30	1.85	2.75	2.27	1.58
Oriental	2.26	1.99	2.90	2.33	1.39
White Northeastern	2.22	1.88	2.73	2.24	1.26
White North Central	2.21	1.82	2.70	2.46	1.28
White Southern	2.33	1.91	2.89	2.33	1.44
White Western	2.32	1.95	2.72	2.39	1.37
Total	2.25	1.88	2.91	2.38	1.39

While these groups differ considerably on variables, such as SES, which are well known to be related to test performance, no adjustments are made for these differences in the present study. Since each of the socio-cultural groups were selected by a carefully conducted random sampling, these group differences are considered to be representative of cultural differences. From this point of view, no adjustments are appropriate.

Results

Cross-plots of all item deltas for each socio-cultural group, in contrast to the White North Central group, are shown in Figures 1 through 9. A dotted line has been drawn in each figure at 45 degrees to serve as a reference line. Items falling on or near this line are of approximately equal difficulty for the White North Central group and the group which is being compared to it. The solid line passing through the center of the cluster of item points (+'s) is the major axis of the ellipse represented by these points. If the solid line falls below the dotted line it indicates that the NLS battery as a whole was more difficult for the group whose deltas are on the abscissa. In Figure 1, for example, the position of the solid line relative to the dotted line indicates that the NLS battery was more difficult for American Indians than for whites living in the North Central region of the United States. Figures 6 and 7 suggest that the NLS battery was slightly easier for Oriental-Americans and for whites living in the Northeastern region of the United States.

The results of primary interest, however, are not those related to the comparative difficulty of the NLS battery as a whole. Rather, the focus is on specific NLS items--especially those items represented by points (+'s) at a distance from the solid line in the cross-plots. A striking example of such an item appears in Figure 3 in which Puerto Ricans are compared to White Americans living in the North Central region. The point, in Figure 3, appearing above the dotted line indicates that the item represented by it was easier for Puerto Ricans than for those of the North Central comparison group. This point represents 79 observations of Puerto Ricans and 3,589 observations of persons in the comparison group. Thus, the normal degree

Figure 1

Cross-plot of Deltas for American Indian

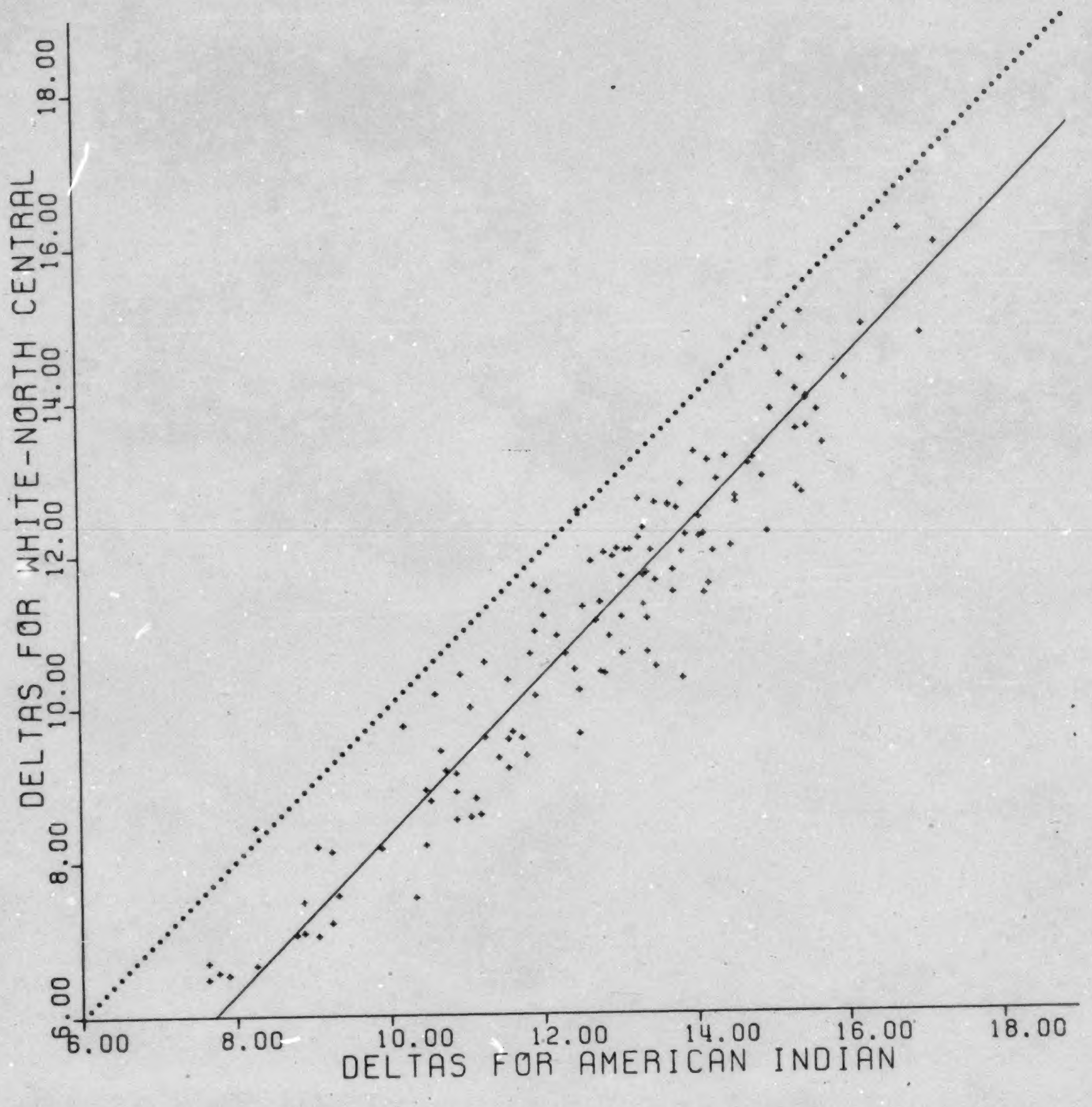


Figure 2

Cross-plot of Deltas for Afro-American

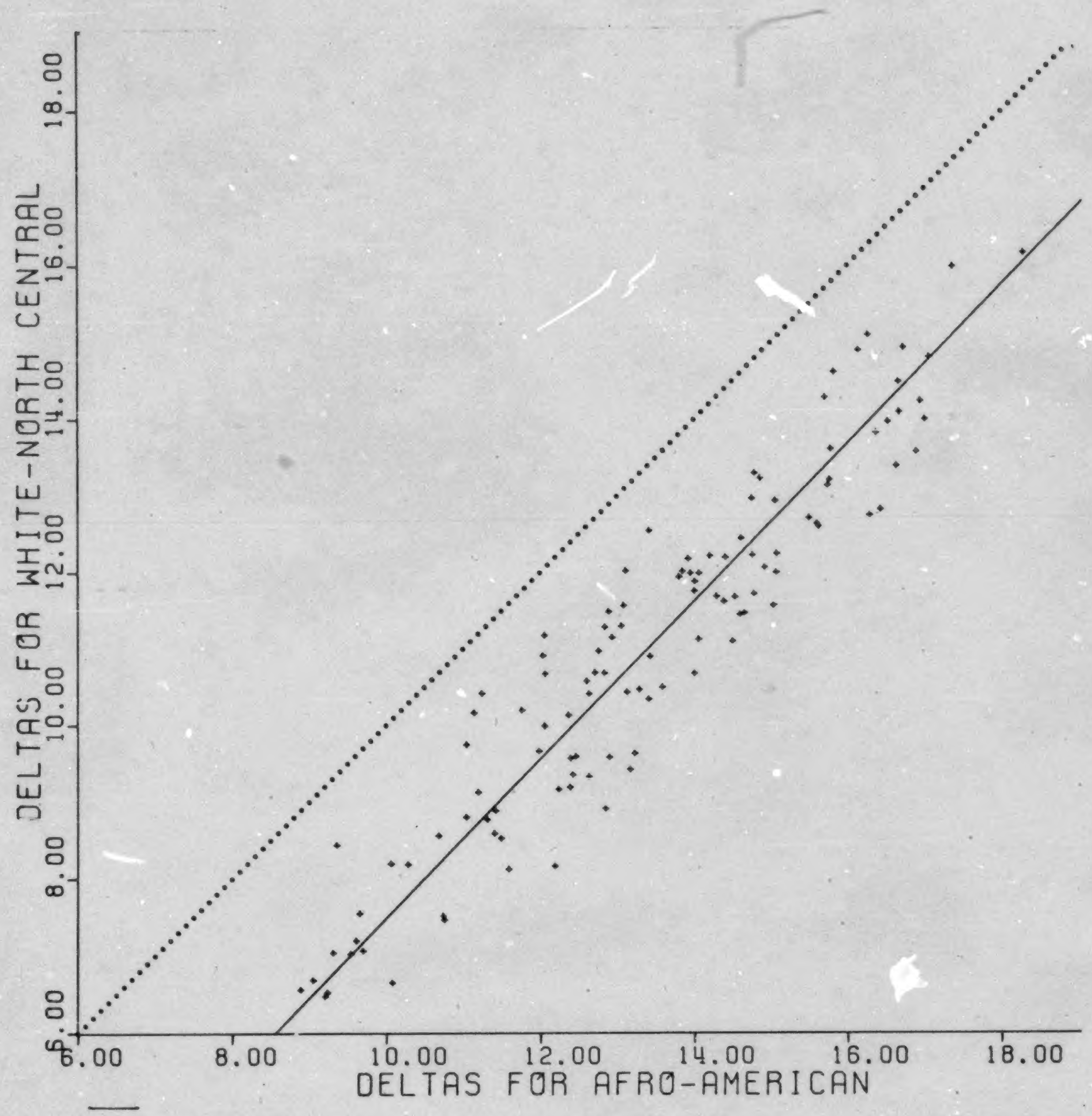


Figure 3

Cross-plot of Deltas for Puerto Rican

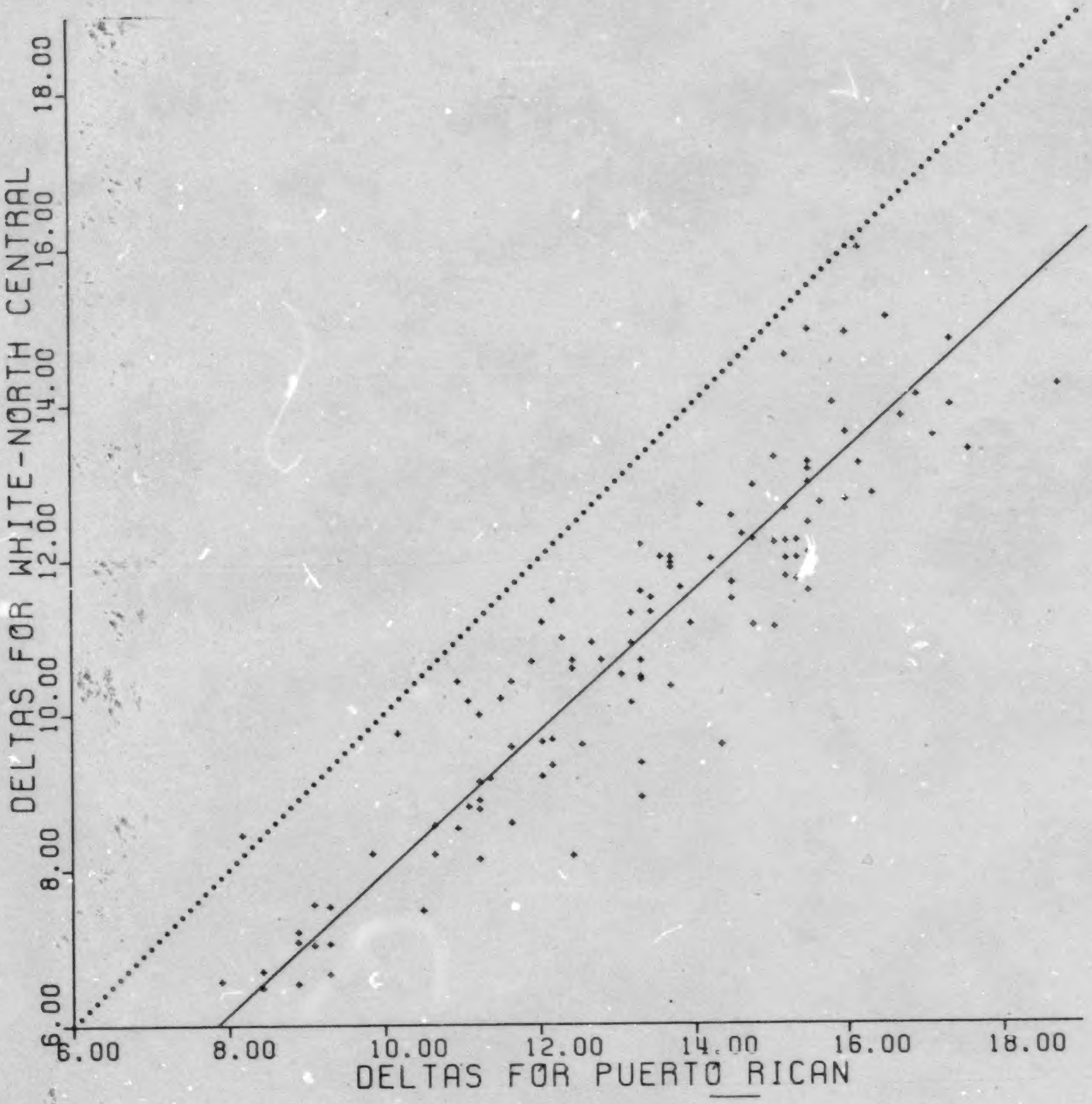


Figure 4

Cross-plot of Deltas for Mexican-American

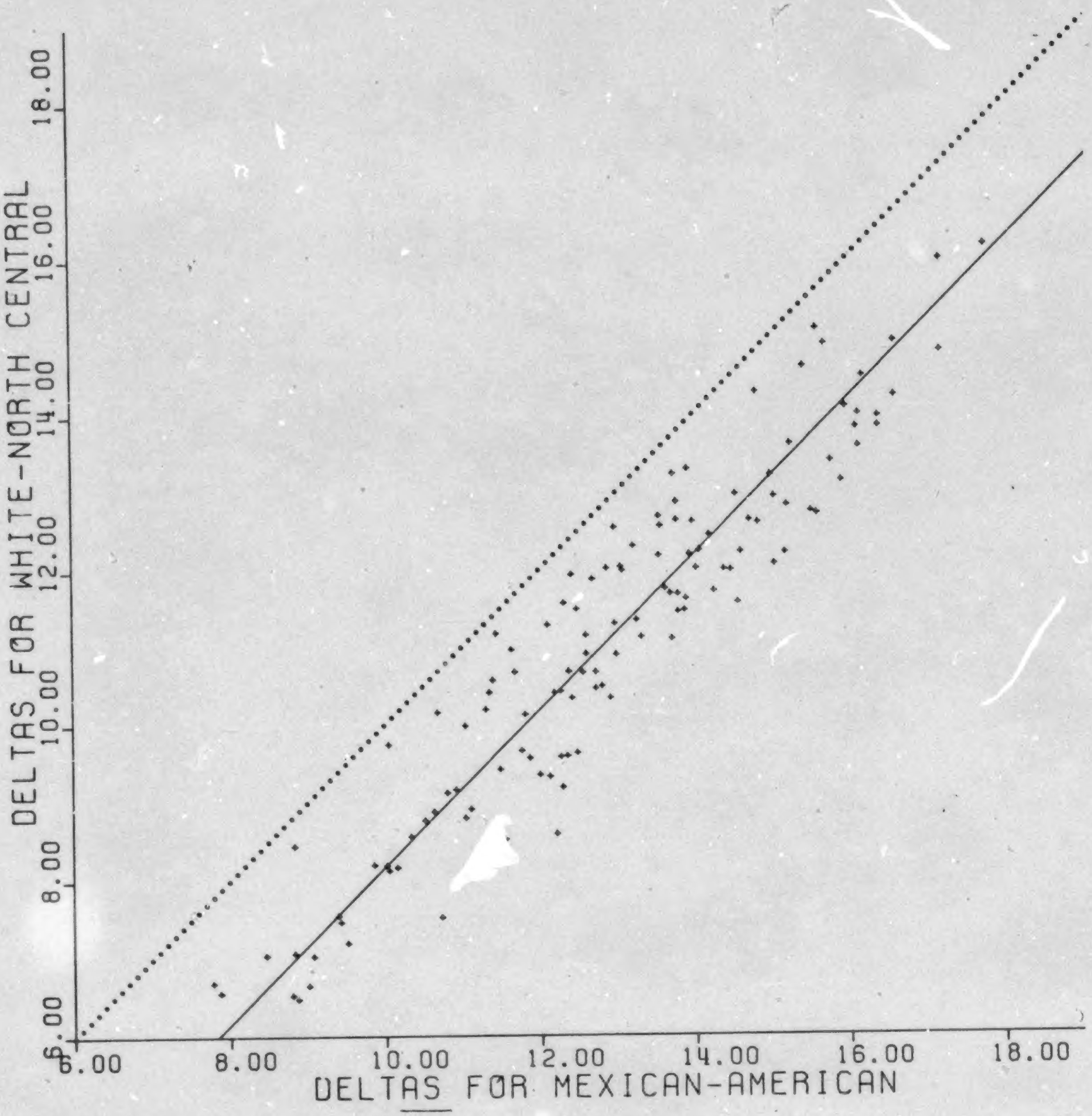


Figure 5

Cross-plot of Deltas for Other Latin-American

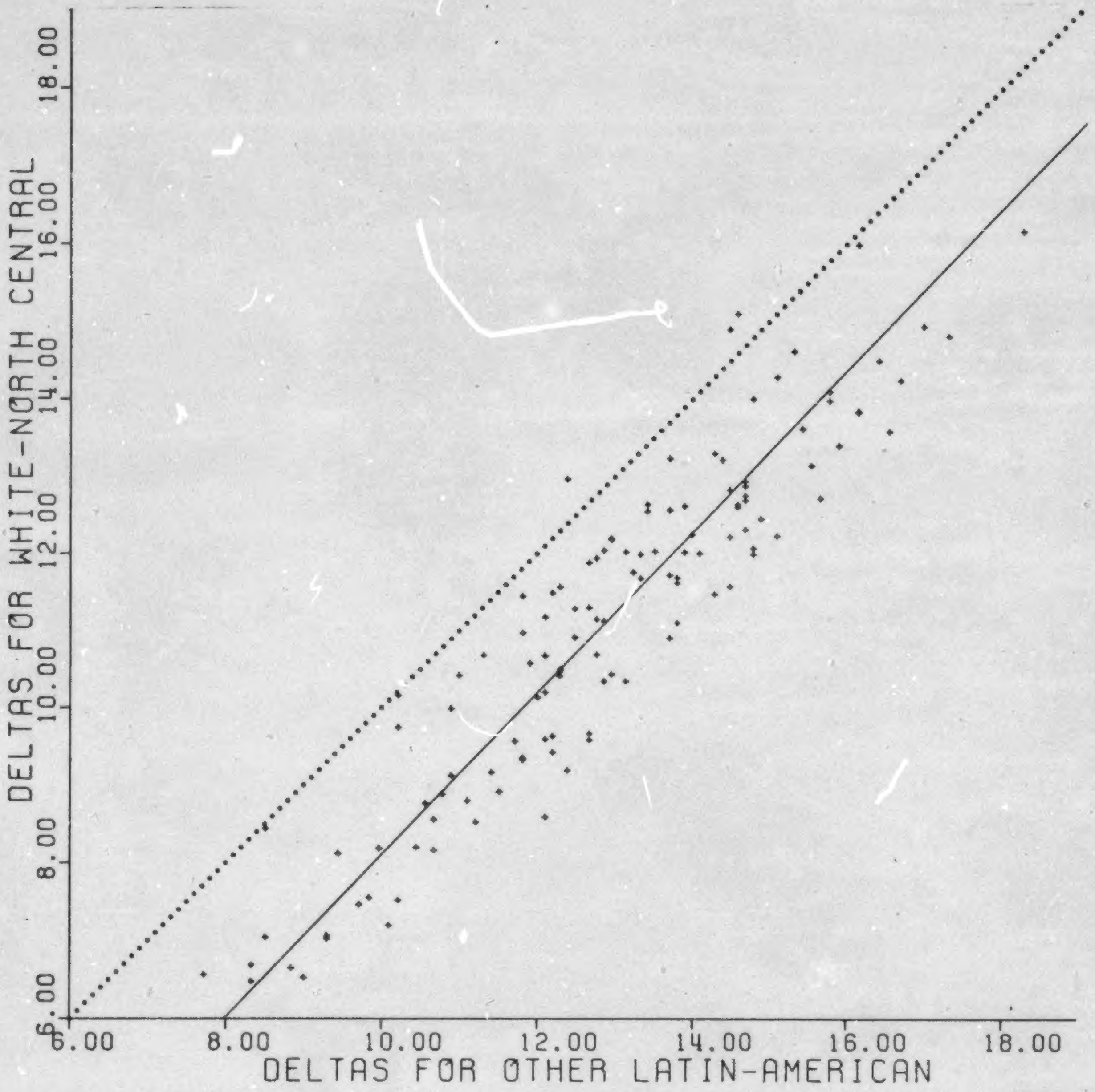


Figure 6

Cross-plot of Deltas for Oriental

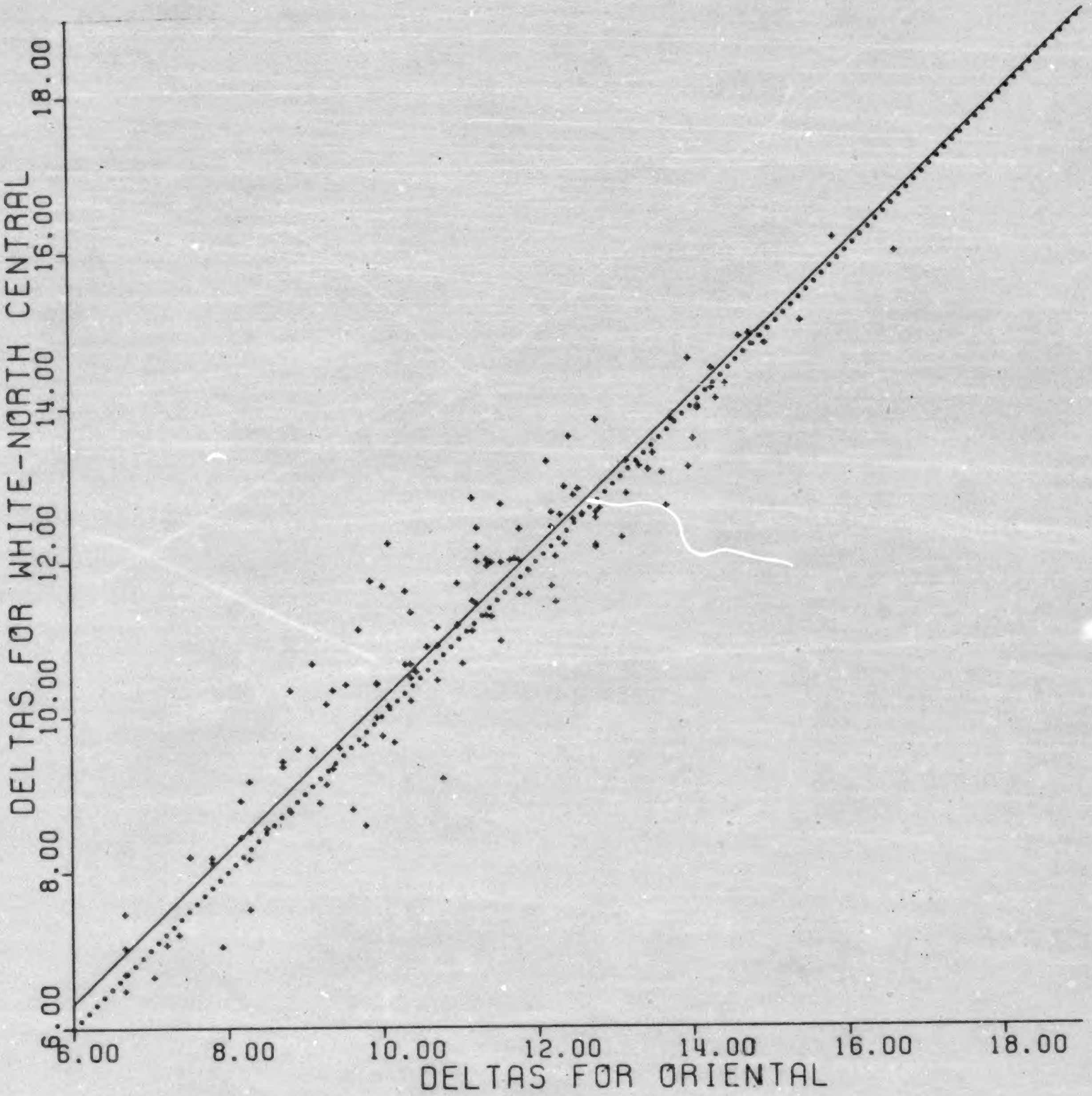


Figure 7

Cross-plot of Deltas for White-Northeastern

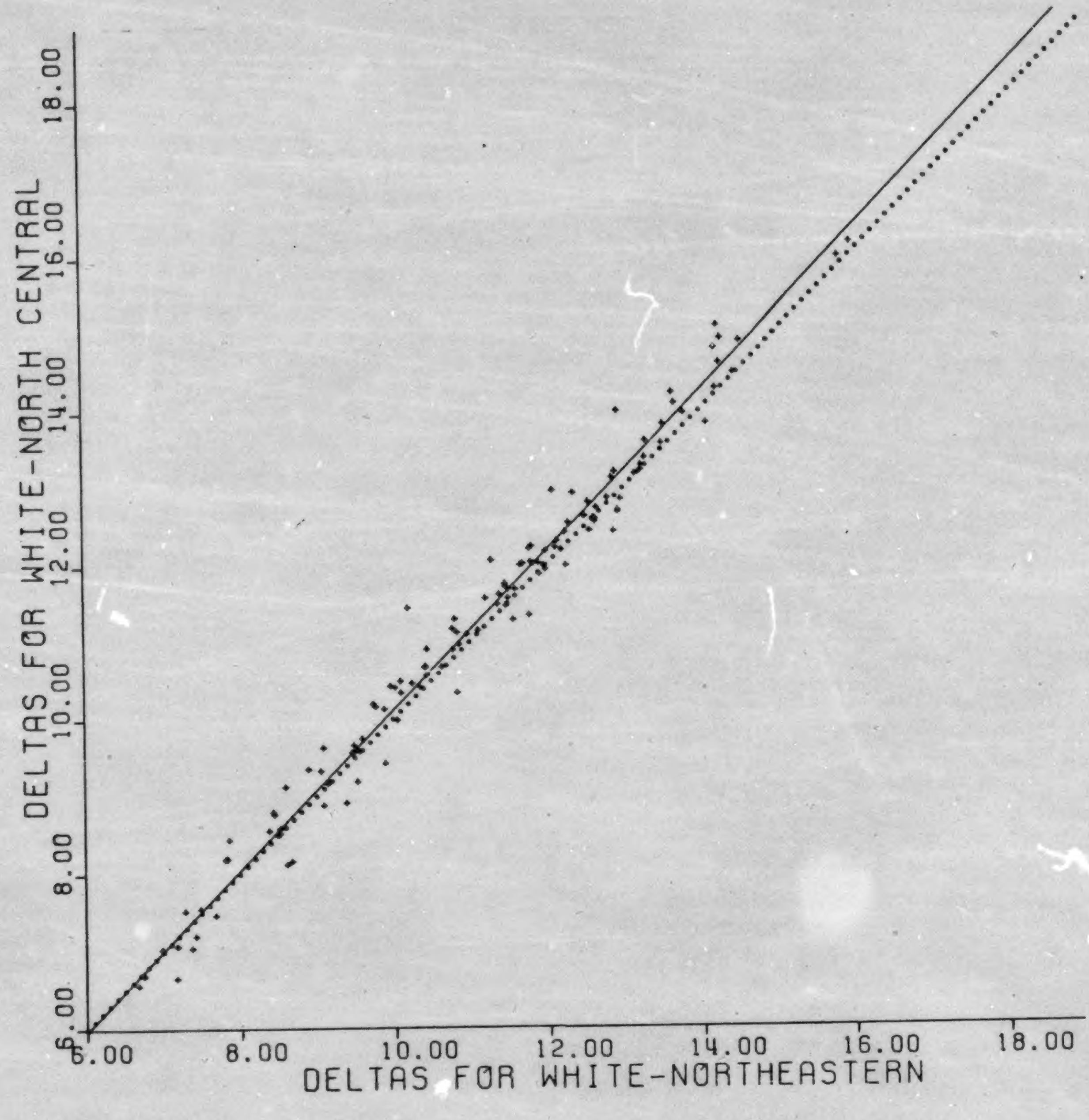


Figure 8

Cross-plot of Deltas for White-Southeastern

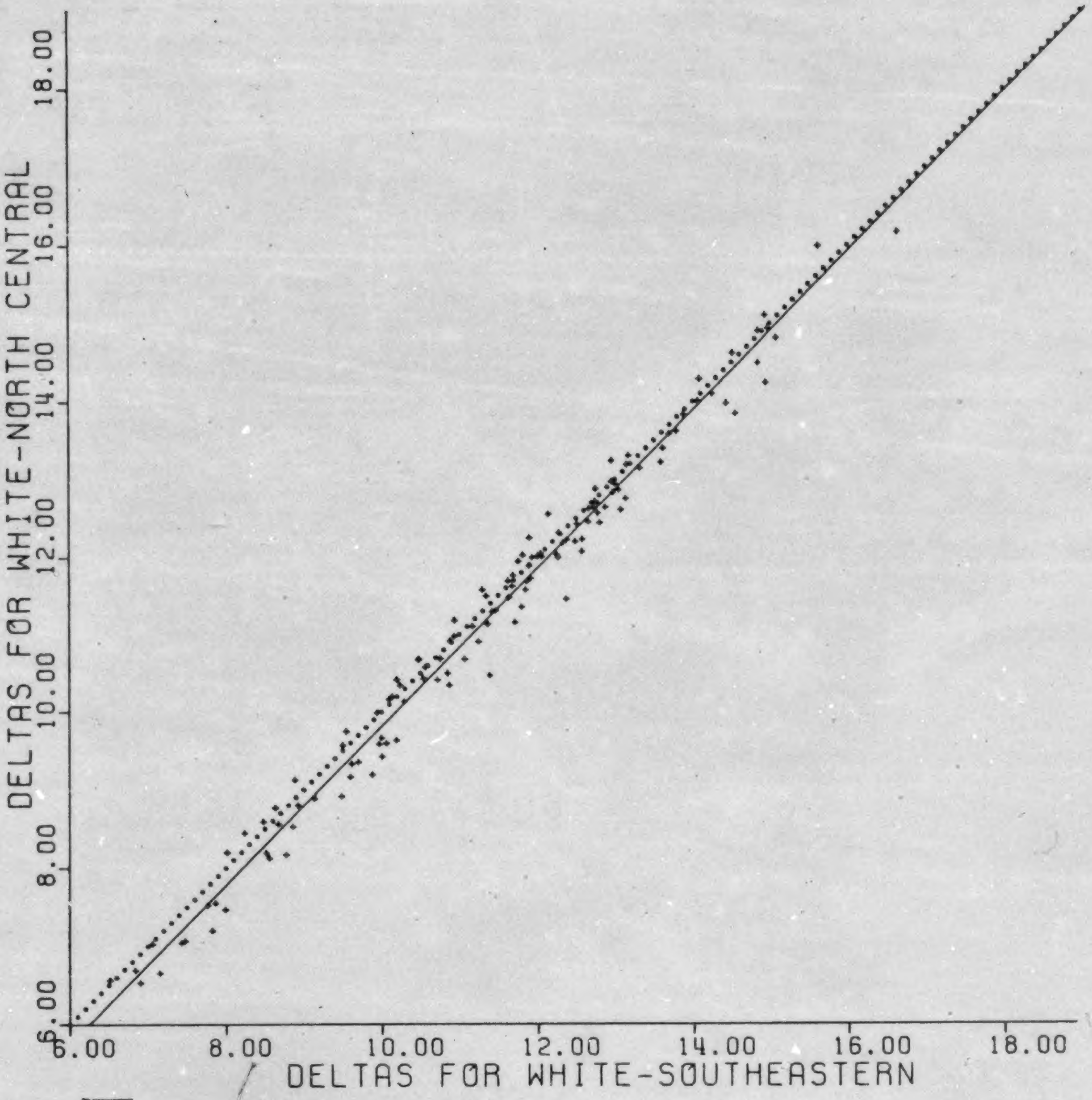
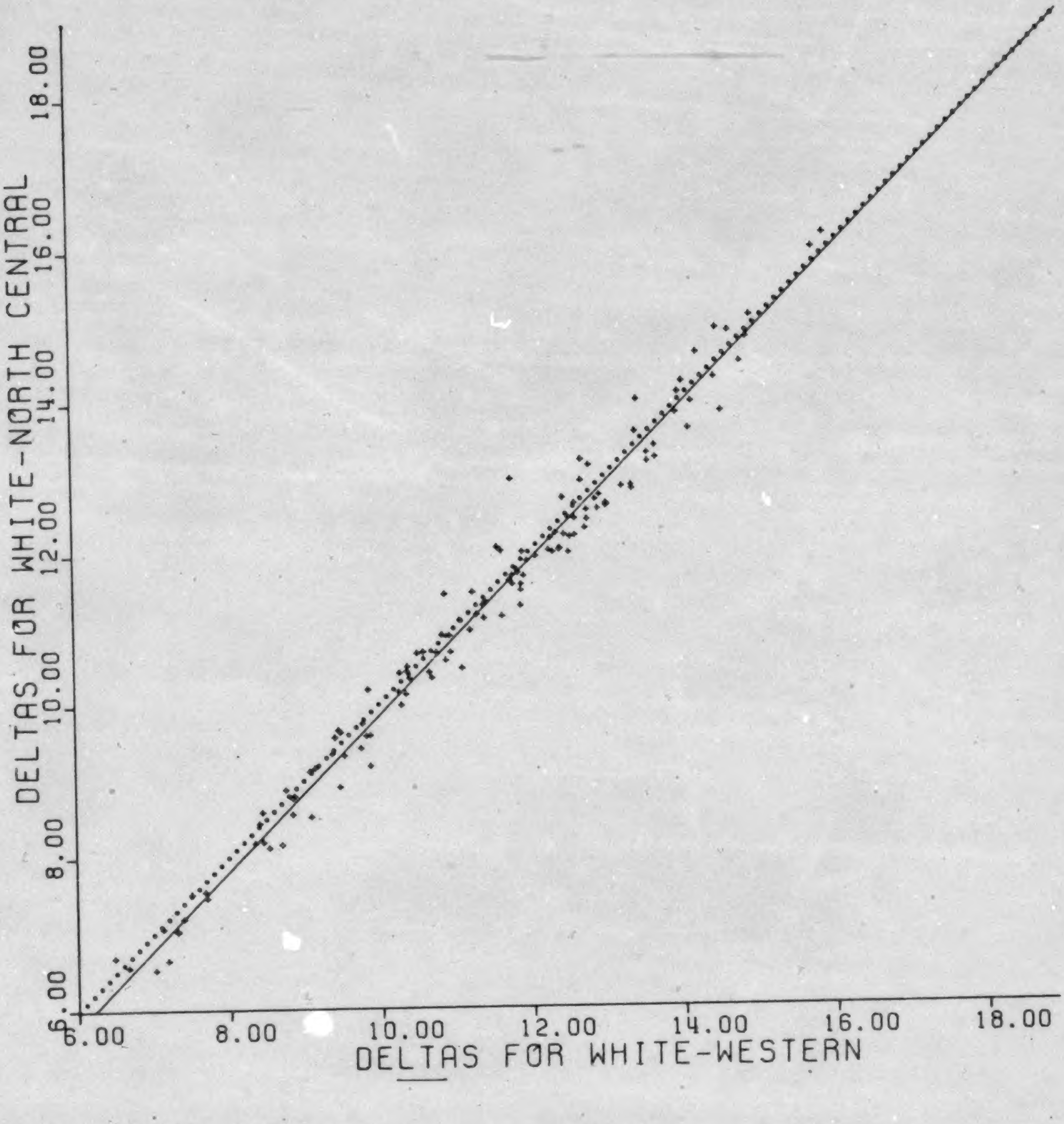


Figure 9

Cross-plot of Deltas for White-Western



of random variation observed in ordinary scatter plots of single observations does not occur in the case of Figure 3. When it is considered that the mean total test scores for Puerto Ricans was well below the mean score for the comparison group (60.1 vs. 87.9), any item that would appear to be easier for Puerto Ricans is worthy of special attention. The same phenomenon occurs when Other Latin-Americans are compared to the white North Central group (Figure 5). Three item points fall above the dotted line in this cross-plot.

The distance of an item point from the dotted line is of less general interest than the distance from the solid line. An an index of cross-cultural instability the perpendicular distance from the major axis of the ellipse for a group (the solid line in Figures 1 through 9) is more meaningful. These distances (d_i's or D-Values) are given for each subtest of the NLS battery, for each item, in Tables 5 through 10. These will be considered for each subtest separately.

Vocabulary. Table 5 presents the values of d_i for each group on each item of the NLS Vocabulary subtest. Negative values of d_i indicate that a particular item was easier for a group relative to other items in the NLS battery and positive values indicate that the item was more difficult for that group than were other items in the NLS battery for the same group. Table 5 would indicate that Vocabulary items 2, 4, 13, and 14 were relatively easier for Other Latin-Americans. Moreover, this relative ease extends to both Mexican-Americans and Puerto Ricans for items 13 and 14. To a slight degree, the same could be said for item 2, but with much less confidence. Item 4, however, would appear to be relatively easier only for Other Latin-Americans and Puerto Ricans. Considering the entire Vocabulary

TABLE 5
ITEM D-VALUES BY GROUP
VOCABULARY

										ITEM	
ITEM	AI	AA	MA	PR	OL	OR	WE	WS	WW	MEAN	S.D.
I- 1	0.81	0.51	0.98	-0.15	0.56	0.73	-0.15	0.02	-0.15	0.35	0.43
I- 2	0.30	-0.39	-0.16	-0.02	-1.64	-0.30	-0.48	-0.10	-0.92	-0.41	0.54
I- 3	0.88	0.83	0.73	0.13	0.53	0.27	-0.32	0.26	-0.21	0.34	0.41
I- 4	0.79	0.55	0.38	-1.13	-1.01	-0.01	-0.78	0.55	-0.49	-0.13	0.70
I- 5	0.68	0.25	1.28	0.64	1.18	1.01	-0.00	-0.22	-0.22	0.51	0.55
I- 6	-0.33	-0.44	-0.31	-0.90	-0.69	0.54	0.00	0.01	0.00	-0.24	0.41
I- 7	0.61	0.36	0.83	0.65	0.71	0.26	-0.43	0.26	-0.43	0.31	0.44
I- 8	0.02	0.18	0.44	0.47	0.11	0.18	0.05	0.25	0.08	0.20	0.15
I- 9	0.03	0.16	-0.01	0.24	-0.38	0.64	-0.07	0.18	-0.43	0.04	0.31
I-10	0.04	0.19	0.69	-0.15	0.52	0.45	-0.05	0.04	-0.30	0.16	0.31
I-11	0.19	0.30	0.40	1.21	0.[illegible]9	0.12	-0.24	0.43	-0.19	0.31	0.41
I-12	0.51	-0.02	0.42	-0.15	0.64	0.18	-0.24	0.12	0.02	0.16	0.28
I-13	-0.82	-0.74	-0.70	-1.13	-1.47	-0.10	-0.06	-0.11	-0.21	-0.59	0.48
I-14	-0.82	-0.79	-0.91	-0.92	-1.53	0.30	-0.41	-0.19	-0.15	-0.60	0.51
I-15	0.00	0.51	0.24	-0.57	-0.62	0.16	-0.59	-0.03	-0.45	-0.15	0.39
GROUP											
MEAN	0.19	0.10	0.29	-0.12	-0.17	0.30	-0.25	0.10	-0.27		
S.D.	0.529	0.467	0.591	0.682	0.908	0.326	0.238	0.215	0.243		

***** D-VALUES NOT COMPUTED FOR MISSING ITEM-DELTAS

TABLE 6
ITEM D-VALUES BY GROUP
PICTURE-NUMBER

ITEM	AI	AA	MA	PR	CL	OR	WE	WS	WW	ITEM MEAN	ITEM S.D.
I- 1	-0.52	-1.09	-1.09	-1.01	-0.61	0.01	-0.18	-0.29	0.00	-0.53	0.42
I- 2	-0.38	-0.26	-0.54	-0.68	-0.66	0.12	0.13	-0.16	0.12	-0.26	0.31
I- 3	-0.84	-0.82	-1.07	-1.20	-0.98	0.35	-0.04	-0.28	-0.08	-0.55	0.52
I- 4	-0.46	-0.44	-0.81	-0.69	-0.68	0.55	0.03	-0.14	0.08	-0.28	0.42
I- 5	-0.24	-0.50	-0.92	-0.22	-0.88	0.18	0.16	-0.29	0.26	-0.27	0.41
I- 6	-0.58	-0.60	-0.83	-0.56	-0.50	0.02	0.12	-0.18	0.13	-0.33	0.34
I- 7	-0.30	-0.18	-0.57	-0.39	-0.84	0.40	-0.09	-0.27	0.10	-0.24	0.34
I- 8	-0.41	-0.36	-0.94	-0.47	-0.66	-0.27	0.17	-0.24	0.03	-0.35	0.31
I- 9	-0.69	*****	-0.67	-0.76	0.21	0.21	0.32	-0.03	0.07	-0.17	0.43
I-10	-0.41	*****	-0.64	*****	0.08	0.32	0.10	-0.18	0.28	-0.06	0.33
I-11	-0.49	*****	-0.47	*****	-0.67	-0.19	0.04	-0.04	0.20	-0.23	0.30
I-12	-0.38	*****	*****	*****	*****	0.30	0.14	-0.12	0.22	0.03	0.25
I-13	-0.31	*****	*****	*****	-0.18	-0.34	0.04	0.06	0.19	-0.09	0.20
I-14	*****	*****	*****	*****	*****	-0.33	0.01	-0.04	0.18	-0.04	0.18
I-15	*****	*****	*****	*****	*****	-0.15	0.23	0.04	0.20	0.08	0.15
I-16	-0.77	-1.14	-0.62	-1.19	-0.88	-0.18	0.05	-0.28	0.08	-0.55	0.46
I-17	-0.88	-0.62	-0.75	-0.45	-0.74	0.37	-0.14	-0.31	0.07	-0.38	0.40
I-18	-1.32	-1.13	-1.01	-1.59	-1.31	-0.01	-0.38	-0.30	-0.15	-0.80	0.56
I-19	-0.34	-0.92	-0.68	-0.61	-0.45	-0.12	-0.00	-0.25	0.09	-0.36	0.31
I-20	-1.16	-1.07	-0.[illegible]8	-0.39	-0.61	0.08	-0.04	-0.39	0.09	-0.50	0.46
I-21	-0.23	-0.60	-0.70	-0.32	-0.41	0.24	0.31	-0.02	0.34	-0.15	0.37
I-22	-0.70	-0.71	-0.58	-0.31	-0.76	-0.09	0.03	-0.22	0.20	-0.35	0.33
I-23	-0.52	-0.29	-0.51	0.50	-0.29	-0.18	0.32	-0.14	0.30	-0.09	0.35
I-24	-0.66	-0.27	-0.70	-0.31	-0.33	0.06	-0.00	-0.13	0.13	-0.25	0.28
I-25	-0.44	-0.63	-0.90	*****	-0.59	0.21	0.13	-0.22	0.08	-0.29	0.38
I-26	-0.57	-0.17	-0.71	-0.42	-0.69	0.15	0.15	-0.10	-0.01	-0.26	0.32
I-27	-0.36	*****	-0.31	*****	-0.31	0.11	0.15	-0.07	0.23	-0.08	0.23
I-28	-0.24	*****	-0.57	*****	-0.41	0.26	0.20	0.06	0.18	-0.07	0.31
I-29	-0.36	*****	-0.63	-0.12	0.47	0.68	0.02	-0.12	0.24	0.02	0.41
I-30	-0.44	*****	-0.56	*****	-0.66	-0.09	-0.04	-0.10	0.19	-0.24	0.29
GROUP											
MEAN	-0.54	-0.62	-0.72	-0.56	-0.53	0.09	0.06	-0.16	0.13		
S.D.	0.261	0.321	0.194	0.440	0.365	0.252	0.149	0.116	0.109		

***** D-VALUES NOT COMPUTED FOR MISSING ITEM-DELTAS

TABLE 7
ITEM D-VALUES BY GROUP
READING

ITEM	AI	AA	MA	PR	OL	OR	WE	WS	WW	ITEM MEAN	ITEM S.D.
I- 1	0.49	-0.16	0.30	0.11	0.32	0.75	-0.21	-0.06	-0.07	0.16	0.31
I- 2	0.49	-0.62	-0.49	-0.65	0.07	0.28	-0.24	-0.17	-0.34	-0.18	0.37
I- 3	0.44	-0.45	-0.12	-0.28	0.26	-0.29	-0.23	-0.29	0.06	-0.10	0.28
I- 4	-0.22	-0.92	-0.08	-0.39	-0.15	0.01	-0.24	-0.14	-0.14	-0.25	0.26
I- 5	0.56	-0.73	0.06	-0.73	-0.26	-0.11	-0.09	-0.26	-0.21	-0.20	0.37
I- 6	0.26	0.28	0.35	-0.09	0.22	-0.16	-0.01	-0.19	-0.22	0.05	0.21
I- 7	0.26	0.45	0.20	0.02	0.17	0.21	0.05	0.07	-0.09	0.15	0.15
I- 8	0.49	0.51	0.42	0.60	0.25	-0.41	-0.11	-0.06	-0.14	0.17	0.34
I- 9	0.09	-0.27	0.83	0.34	0.39	0.51	-0.18	0.01	0.21	0.21	0.32
I-10	-0.10	-0.38	0.15	-0.52	0.10	-0.03	-0.10	-0.11	-0.35	-0.15	0.21
I-11	-0.12	-0.16	0.21	-0.49	0.03	-0.16	-0.27	-0.05	-0.24	-0.14	0.19
I-12	0.08	-0.28	-0.10	-0.04	-0.06	0.28	-0.32	-0.31	-0.15	-0.10	0.19
I-13	0.48	0.58	0.43	0.41	0.76	0.68	0.12	0.00	-0.25	0.36	0.31
I-14	-0.13	-0.34	-0.09	-1.47	0.32	-0.04	-0.27	-0.04	-0.35	-0.27	0.47
I-15	-0.17	-0.62	-0.41	-1.81	-1.01	0.52	0.13	-0.31	-0.18	-0.43	0.64
I-16	0.20	0.32	0.77	0.27	0.90	0.79	0.31	-0.08	-0.26	0.36	0.37
I-17	-0.81	-0.77	-0.69	-1.44	-0.66	-0.36	-0.06	-0.15	-0.31	-0.58	0.40
I-18	0.02	0.73	0.57	1.06	0.67	0.19	0.01	-0.07	-0.11	0.34	0.40
I-19	-0.16	0.20	0.06	0.09	0.03	0.26	-0.12	0.03	-0.13	0.03	0.14
I-20	0.20	0.72	0.54	0.61	0.94	0.42	0.12	-0.00	-0.17	0.37	0.34
GROUP											
MEAN	0.12	-0.10	0.14	-0.22	0.16	0.17	-0.08	-0.11	-0.17		
S.D.	0.333	0.513	0.392	0.725	0.464	0.358	0.164	0.113	0.134		

***** D-VALUES NOT COMPUTED FOR MISSING ITEM-DELTAS

TABLE 8
ITEM D-VALUES BY GROUP
LETTER GROUPS

ITEM	AI	AA	MA	PR	OL	OR	WE	WS	WW	ITEM MEAN	ITEM S.D.
I- 1	0.26	-0.08	0.34	-0.19	0.70	0.32	0.17	0.28	0.00	0.20	0.25
I- 2	0.32	-0.46	-0.10	-0.17	-0.29	0.18	-0.24	0.00	-0.03	-0.09	0.22
I- 3	-0.56	-0.28	0.01	0.27	-0.08	-0.09	-0.24	0.08	-0.01	-0.10	0.22
I- 4	-0.39	0.13	0.40	0.04	-0.08	0.35	*****	*****	*****	0.07	0.27
I- 5	1.01	0.49	0.36	0.18	0.00	0.07	-0.19	0.13	-0.18	0.21	0.35
I- 6	0.25	-0.01	0.15	0.08	0.24	-0.04	-0.03	-0.14	0.06	0.06	0.13
I- 7	0.58	-0.14	-0.02	-0.72	0.06	-0.46	-0.19	0.09	-0.19	-0.11	0.34
I- 8	0.26	0.30	0.32	0.37	0.02	0.33	-0.07	0.53	0.36	0.27	0.17
I- 9	0.28	0.09	0.20	-0.04	0.74	-0.03	0.02	0.12	-0.07	0.14	0.24
I-10	0.61	-0.25	-0.03	-0.01	0.17	0.15	-0.08	-0.07	0.08	0.06	0.23
I-11	0.24	-0.08	0.21	0.19	0.85	0.51	-0.05	0.11	-0.25	0.19	0.31
I-12	-0.24	0.12	0.31	0.31	0.37	*****	*****	0.09	0.20	0.17	0.19
I-13	0.08	-0.29	0.01	-0.31	0.27	*****	-0.03	0.06	-0.04	-0.03	0.18
I-14	0.52	0.20	0.02	0.39	0.52	-0.20	-0.24	-0.05	-0.14	0.11	0.29
I-15	-0.04	0.45	-0.04	0.03	0.29	-0.44	0.05	0.17	-0.12	0.04	0.24
I-16	0.58	0.45	0.59	1.20	0.45	-0.28	-0.27	0.11	-0.09	0.31	0.45
I-17	0.34	0.62	0.70	0.44	0.46	0.20	-0.13	0.07	0.04	0.31	0.26
I-18	0.23	-0.43	-0.25	0.29	-0.11	-0.16	0.08	0.29	0.26	0.02	0.25
I-19	0.05	-0.13	-0.04	0.37	0.52	-0.05	0.23	0.05	-0.02	0.11	0.21
I-20	0.38	0.63	0.62	1.72	0.91	-0.30	0.06	0.14	0.07	0.47	0.56
I-21	0.07	0.49	0.52	0.80	0.17	-0.39	-0.06	0.03	0.01	0.18	0.34
I-22	-0.39	-0.08	-0.07	*****	0.21	-0.06	0.16	0.18	0.19	0.02	0.19
I-23	-0.63	-0.08	-0.13	*****	0.40	-0.16	0.12	0.29	-0.19	-0.05	0.30
I-24	-0.35	0.48	0.30	*****	0.19	-0.09	0.17	0.24	0.23	0.15	0.24
I-25	-0.22	*****	0.53	*****	0.47	0.03	0.36	0.42	0.46	0.29	0.26
GROUP											
MEAN	0.13	0.09	0.20	0.25	0.30	-0.03	-0.02	0.14	0.03		
S.D.	0.396	0.327	0.262	0.505	0.303	0.257	0.167	0.148	0.177		

***** D-VALUES NOT COMPUTED FOR MISSING ITEM-DELTAS

TABLE 9
ITEM D-VALUES BY GROUP
MATHEMATICS

ITEM	AI	AA	MA	PR	CL	OR	WE	WS	WW	ITEM MEAN	ITEM S.D.
I- 1	0.50	0.35	0.86	0.22	0.59	0.02	0.04	0.09	0.29	0.33	0.26
I- 2	-0.83	-1.04	-0.91	-0.90	-1.27	-0.46	-0.20	-0.18	-0.03	-0.65	0.42
I- 3	0.09	0.06	-0.05	0.23	-0.05	0.21	-0.18	-0.24	-0.06	-0.00	0.15
I- 4	0.25	0.05	-0.04	0.14	0.03	0.39	0.20	0.04	-0.20	0.10	0.17
I- 5	1.36	0.47	0.54	0.72	0.51	-0.91	-0.08	-0.20	-0.05	0.26	0.61
I- 6	0.53	0.54	0.92	0.46	0.98	1.29	0.31	0.35	0.38	0.64	0.32
I- 7	0.03	0.31	0.68	0.51	0.49	0.07	0.01	0.21	0.10	0.27	0.23
I- 8	0.22	0.28	0.34	-0.14	0.31	-0.79	-0.05	-0.07	0.00	0.01	0.33
I- 9	0.12	-0.14	-0.09	0.53	0.04	0.12	-0.10	-0.02	0.06	0.06	0.19
I-10	0.05	0.17	0.14	0.25	0.26	-1.04	-0.00	-0.15	-0.01	-0.04	0.38
I-11	-0.14	0.35	0.22	0.26	-0.07	0.50	0.06	0.03	0.10	0.14	0.19
I-12	0.79	-0.28	-0.08	-0.14	0.21	-0.96	-0.09	-0.07	-0.16	-0.09	0.43
I-13	0.48	0.39	0.27	0.85	-0.03	-0.86	-0.10	0.05	0.10	0.13	0.45
I-14	0.03	0.66	0.17	0.21	-0.26	-0.06	0.07	0.16	-0.02	0.11	0.24
I-15	0.21	-0.21	0.49	-0.15	0.77	-0.27	0.11	0.09	0.16	0.13	0.32
I-16	0.84	0.34	0.01	0.02	0.01	-1.39	-0.18	-0.35	0.00	-0.08	0.56
I-17	0.29	-0.09	0.05	0.63	-0.20	-1.20	-0.09	-0.16	-0.02	-0.08	0.47
I-18	0.25	0.13	0.41	0.43	0.83	0.22	0.06	0.15	0.10	0.29	0.23
I-19	0.23	-0.10	-0.04	0.25	-0.70	-0.54	0.14	0.11	0.18	-0.05	0.33
I-20	0.75	0.78	0.85	1.02	0.84	0.29	0.07	0.09	0.15	0.54	0.36
I-21	0.72	0.91	0.41	0.64	-0.03	-1.04	-0.05	0.01	0.32	0.21	0.55
I-22	0.82	0.86	0.69	0.47	0.17	-0.73	0.08	0.18	0.07	0.29	0.47
I-23	0.22	0.17	0.34	0.15	0.48	-0.64	-0.04	-0.04	0.04	0.08	0.30
I-24	0.57	0.66	0.42	1.05	0.60	0.19	0.09	0.07	0.14	0.42	0.31
I-25	0.27	-0.11	-0.11	-0.17	0.11	-0.73	-0.06	0.04	0.30	-0.05	0.29
GROUP											
MEAN	0.35	0.22	0.26	0.30	0.18	-0.33	0.00	0.01	0.08		
S.D.	0.412	0.418	0.394	0.419	0.490	0.640	0.119	0.156	0.141		

***** D-VALUES NOT COMPUTED FOR MISSING ITEM-DELTAS

TABLE 10
ITEM D-VALUES BY GROUP
MOSAIC COMPARISONS

ITEM	AI	AA	MA	PR	OL	OR	WE	WS	WW	ITEM MEAN	ITEM S.D.
I- 1	-0.54	-0.13	-0.53	-0.12	-0.23	0.20	0.04	-0.06	-0.29	-0.18	0.23
I- 2	-0.35	-0.16	-0.37	-0.38	-0.58	*****	0.07	-0.21	-0.07	-0.25	0.19
I- 3	0.04	-0.19	-0.29	0.20	-0.34	0.82	0.24	0.11	0.05	0.07	0.33
I- 4	0.09	0.08	-0.04	-0.09	0.21	0.30	0.09	0.13	-0.10	0.07	0.13
I- 5	*****	*****	*****	*****	*****	*****	*****	*****	*****	0.0	0.0
I- 6	*****	*****	*****	*****	*****	*****	*****	*****	*****	0.0	0.0
I- 7	*****	*****	*****	*****	*****	*****	*****	*****	*****	0.0	0.0
I- 8	-0.07	0.64	0.37	0.49	0.17	0.48	0.37	0.19	0.24	0.32	0.20
I- 9	-0.19	0.56	0.09	0.70	0.24	-0.36	0.17	0.22	0.04	0.16	0.31
I-10	-0.39	0.70	0.07	0.70	-0.41	-0.04	0.38	0.16	0.17	0.15	0.38
I-11	0.05	1.11	0.12	1.48	0.45	0.27	0.40	0.28	0.26	0.49	0.45
I-12	-0.06	1.06	0.27	1.52	0.53	-0.34	0.39	0.26	0.28	0.44	0.53
I-13	-0.27	0.93	0.18	*****	0.68	-0.33	0.41	0.28	0.13	0.25	0.40
I-14	-0.28	*****	0.19	*****	0.72	-0.53	0.44	0.25	0.16	0.14	0.39
I-15	-0.11	*****	0.08	*****	*****	-0.54	0.42	0.21	-0.03	0.00	0.30
I-16	*****	*****	*****	*****	*****	-0.72	0.46	0.16	0.05	-0.01	0.43
I-17	*****	*****	*****	*****	*****	-0.70	*****	*****	*****	-0.70	0.0
I-18	*****	*****	*****	*****	*****	*****	*****	*****	*****	0.0	0.0
I-19	*****	*****	*****	*****	*****	*****	*****	*****	*****	0.0	0.0
I-20	*****	*****	*****	*****	*****	*****	*****	*****	*****	0.0	0.0
GROUP											
MEAN	-0.17	0.46	0.01	0.50	0.13	-0.11	0.30	0.15	0.07		
S.D.	0.188	0.490	0.260	0.637	0.434	0.471	0.149	0.136	0.158		

***** D-VALUES NOT COMPUTED FOR MISSING ITEM-DELTAS

subtest, the lower marginal values in Table 5 suggest that, in general, this subtest was more unstable for Spanish-speaking students than for others (note the higher values for the lower marginal standard deviations for the three Spanish-speaking groups). Some possible reasons for these instabilities will be discussed later.

Picture-Number. The D-Values for the Picture-Number test are shown in Table 6. Note that a number of the items have no D-Values (indicated by the asterisks). These were not computed when Delta-Values were missing for an item and the Delta-Values were not computed if either: (i) the proportion of a given group responding was less than 50 percent or (ii) the proportion responding correctly was greater than .95 or less than .05. In Table 6, the primary reason for the missing D-Values was a low response rate associated with the speededness of the test. The first part of the Picture-Number test is represented by the first 15 items and the second part by the last 15 items. Because of the speededness factor and because the items in the Picture-Number test are relatively homogeneous across cultures (i.e., none of the pictures would appear to have a special meaning or lack of meaning for any of the groups being analyzed), the specific item D-Values are difficult to interpret. When all of the items of the subtest are considered together, however, it is noteworthy that this kind of test would appear to be easier for minority groups (except Oriental-Americans) than the other subtests of the NLS battery. This is indicated by the lower marginal means which are substantially negative for five of the minority groups.

Reading. Like the Vocabulary subtest, the Reading subtest reveals considerable cross-cultural instability (Table 7). These instabilities occur principally with respect to blacks and Puerto Ricans, as indicated by the lower marginal standard deviations. For blacks, an especially interesting aspect of the Reading subtest is represented by the first five items. All of the first five items appear to have been relatively easier for blacks than other items in the NLS battery. These first five items all related to a reading passage concerning the problems and prospects of black television in the United States. Items 15 and 17 appear to be easier for Spanish-speaking students. Reasons why these instabilities occur are considered later.

Letter Groups. The items of this test, like those of the Picture-Number test, are relatively homogeneous across cultures since none of the items is appreciably different and there is no obvious reason why one item might be relatively more difficult or relatively easier for any given socio-cultural group. The low values of d_i shown in Table 8 support such generalization. Very few of the d_i's exceed 1.0 and those few might easily be attributed to random variation. And the lower marginal means give no indication that the subtest as a whole is relatively easier for one group than another.

Mathematics. As might have been expected, the Mathematics subtest was relatively easier for Oriental-Americans than other sections of the NLS battery (Table 9). This subtest also appears to have been relatively more difficult for American-Indians, blacks, Mexican-Americans, and Puerto Ricans. And while some of the items of the Mathematics test show interesting patterns (item 5 relatively more difficult for five minority groups), the content of such items gives no indication as to why this might be the case. Item 5, for example, compared the square root of a number to the same number without the square root symbol. The task was to indicate whether the square root was greater, less, equal, or that the relationship could not be determined from the information given. While it could be that minorities receive especially poor training in taking square roots, it is not clear why this particular item is relatively more difficult than other, similar, mathematical items. Accordingly, one should be cautious in making any generalization from extreme D-Values when there is no contextual evidence to support the generalization. Although the Mathematics subtest and some of the items in it are unstable, one should also be cautious in making the inference that such tests are cross-culturally "unfair."

Mosaic Comparisons. Since only a middle group of twenty items from the NLS Mosaic Comparisons test were analyzed (the first twenty items of the second of three parts of the test), it is not appropriate to discuss these twenty items as representing the NLS battery Mosaic Comparisons test. The results do suggest, however, that this kind of test item is relatively stable across cultures (Table 10). Table 10 suggests as well that the primary source of instability is the speededness of the test and that blacks and Puerto Ricans were most affected by this speed factor (note the increasingly large positive D-Values with item number and the low response rates for the later items indicated by the asterisks). Thus it is probable that the instabilities which do occur are not due to the item type, but to the fact that speeded tests are relatively more difficult for these groups than non-speeded tests.

Discussion

It is not surprising that Vocabulary, Reading, and Mathematics test items are less cross-culturally stable than are items such as those in the NLS Picture-Number, Letter Groups, and Mosaic Comparisons tests. Language is one of the most common differences found across different cultural groups. And the penchant for mathematics among Oriental cultures is well known. Cross-cultural instability of itself, however, is not reason enough for the exclusion of items from a test. The use of an item, or a test within which the item is used, as well as the validity of the item need also to be considered. In a test used for the selection of persons for advanced training in mathematics, for example, it would clearly seem unwise to exclude items merely because Orientals performed better on them. Such an exclusion would probably attenuate the predictive validity of the test.

Nor would it seem entirely appropriate to exclude a set of items about Black television because these items were relatively easier for Blacks. Perhaps all tests need to have more such items and, additionally, items associated with other cultures. The decision of excluding or including specific items in a test is, therefore, a decision far removed from any mechanical procedure. Not only do matters of content and predictive validity need to be considered, but also matters of subtle cross-cultural differences and the socio-political context that accompanies them. An index of cross-cultural stability across socio-cultural groups, however, is useful when analyzing the suitability of an item for a particular test. Like a speedometer, a thermometer, or any other measuring device, it provides information that can help in making decisions. But it is only one of several situational variables describing the context in which the decision is to be made.

The instabilities in the NLS Vocabulary subtest have some especially interesting potentialities with respect to the groups speaking Spanish as a native language. Although a thorough analysis of this possible sociolinguistic phenomenon is beyond the scope of this study, some interesting directions for research can be pointed out.

Items 2, 4, 13, and 14 of the Vocabulary test are of special interest. These are items that appeared to be relatively easier for at least some of the Spanish-speaking groups than were other items in the NLS battery. Item 2 asked for the synonym for the English verb, "convalesce." The correct response was the English verb, "recuperate." What is notable about this particular kind of item is that these same verbs have cognates in Spanish--"convalecer" and "recuperar," respectively. It is thus not surprising that Spanish-speakers did better on the item than on other items in the NLS battery. What is surprising is that one Spanish-speaking group, Other Latin-Americans, appears to have done better with item 2 than either the White North Central group or the White Southern group. Of the 60 Other Latin-Americans who attempted the item, 61 percent gave correct responses. This compares to 54 percent and 55 percent, respectively, for the White North Central group and the White Southern group. (See Appendix E for actual response patterns for all groups on all items.)

Item 13 of the Vocabulary test is similar, since it also involves a double cognate (both the stem and the correct option are Spanish cognates). The stem of item 13 was the English adjective, "impetuous," and the correct option was the English adjective, "impulsive." The corresponding cognates in Spanish are "impetuoso" and "impulsivo." Items 4 and 14 involve cognates also but these are not double ones, since only the stem in each case is a cognate. Apparently, however, this small advantage helps the Spanish-speaker. The stem in item 4 was "novice," which has the cognate, "novicio." And the stem in item 14 was "enigma," having the identical cognate in Spanish.

Where a vocabulary word for which a synonym is required is a cognate--that is, a word with a similar root in the native language--then the item may possibly be easier for persons who speak that native language. And if the keyed response is also a cognate, the item might be especially easy for a non-English-speaking individual. Finally, if these cognates are more common in, say, Spanish than they are in English, then it would not be surprising at all if Spanish-speaking persons did much better with an item than native English-speakers. Such an explanation might offer a reason for the fact that some of the NLS vocabulary items were considerably easier for Puerto Ricans and Other Latin-Americans, while the same phenomenon did not occur to a similar degree for Mexican-Americans. Beyond the question of the ease or difficulty of items, analyses of the nature of response patterns using techniques like those of Flaugher and Pike (1970) might also reveal interesting cross-cultural phenomena.

Conclusions

This study demonstrates that useful indices of the cross-cultural stability of test items (as well as tests) can be created. Perhaps further efforts will yield better indices than that used herein. The study also shows that no purely mechanical or statistical procedure is sufficient for making decisions about the inclusion or exclusion of items from a particular test. An instability across socio-cultural groups may reflect a cultural tradition that deserves recognition. In such cases, items which serve to display cultural differences play a positive role. But in other instances, where an instability suggests that the outcomes are due to some unintended and undesired consequence, these instabilities serve no useful purpose and should be eliminated if possible. A case in point is where Spanish-speaking persons perform better on English vocabulary items because the words involved may be cognates more common in Spanish than they are in English.

A perhaps more important aspect of the study, however, is that it suggests an approach to the present controversy over test bias that might be more palatable to minority groups than current approaches. Rather than emphasizing predictive analyses based on external criteria (which themselves may be biased), analyses of individual test items in the contexts of their use, socio-cultural differences, and other subjective criteria might lead to some reconciliation of issues. After having created tests having optimal cross-cultural stabilities, without the use of external criteria, the next task would be to observe the predictive consequences of such procedures. If this new approach yielded predictive validities not significantly below those commonly obtained in less cross-culturally stable tests, then it would tend to satisfy psychometricians as well as members of minority groups.

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Appendices

The appendices following this page are:

Appendix A. Sample Test Items and Answer Sheet

Appendix B. Survey Administrators Guide

Appendix C. Test Analysis

Appendix D. Item P-Values (proportions of samples responding correctly)

Appendix E. Item Response Patterns and Statistics (including mean total test scores and mean subtest scores by group)

Appendix F. Item Delta-Values (transformed P-Values)

Appendix G. Item D-Values (standardized)

Symbols used in Appendices D through G:

AI - American Indian
AA - Black or Afro-American or Negro
MA - Mexican-American
PR - Puerto Rican
OL - Other Latin-American origin
OR - Oriental or Asian-American
WE - White or Caucasian, Northeastern United States
WC - White or Caucasian, North Central United States
WS - White or Caucasian, Southern United States
WW - White or Caucasian, Western United States

N - Number of cases
NR - No response
P - Proportion of sample or subsample responding correctly
MS - Mean subtest score
MT - Mean Total Test score
D - Distance, in delta units, from the major axis of the elliptical pattern of points resulting from the cross-plot of item delta-values for a group in contrast to a standard comparison group.

APPENDIX A

Sample Test Items

and

Answer Sheet

FORM UEE

Student Test Book

Prepared for the
UNITED STATES OFFICE OF EDUCATION
BY EDUCATIONAL TESTING SERVICE □ PRINCETON, NEW JERSEY
SPRING 1972

OE FORM NO. 2348-5, 2-72 COPYRIGHT © 1962, 1963, 1967, 1968, 1969, 1970 BY EDUCATIONAL TESTING SERVICE. ALL RIGHTS RESERVED.

The NLS test battery includes items from ETS tests which are in current use.

To maintain the security of these tests, only sample questions from each section have been included here.

Qualified researchers may write for a copy of the complete test booklet to:

Dr. Hunter M. Breland
Educational Testing Service
Princeton, New Jersey 08540

GENERAL DIRECTIONS

This test has six sections. Some sections have more than one part. During the time allowed for each section or part, you are to work only on it. The time limit for each section or separately timed part is printed at the beginning of each section or part, and the supervisor will tell you when to begin and when to stop. If you finish a section or part before time is called, go back and check your work on that section or part only.

Your score on each section will be the number of correct answers minus a percentage of the number of incorrect answers. Therefore, it will not be to your advantage to guess unless you are able to eliminate one or more of the answer choices.

Mark all of your answers on the separate answer sheet, as no credit will be given for anything written in the test book. Make your marks on the answer sheet heavy and black, as in the examples below.

Sample Answers

■ B C D E

A B C ■ E

Be sure that the entire box is blackened.

If you wish to change an answer, erase your first mark completely.

CONTENTS OF TEST BOOK

Section 1	Vocabulary	5 minutes
Section 2	Picture-Number (Two parts of 5 minutes each)	10 minutes
Section 3	Reading	15 minutes
Section 4	Letter Groups	15 minutes
Section 5	Mathematics	15 minutes
Section 6	Mosaic Comparisons (Three parts of 3 minutes each)	9 minutes
Total		69 minutes

793101
P22P24

SECTION 1

VOCABULARY

Time—5 minutes

Directions: Each of the questions below consists of one word followed by five words or phrases. You are to select the *one* word or phrase whose meaning is closest to that of the word in capital letters.

Sample Question	Sample Answer
CHILLY: (A) lazy (B) nice (C) dry (D) cold (E) sunny	A B C ■ E

In order to find the correct answer you look at the word *chilly* and then look for a word below it that has the same or almost the same meaning. When you do this, you see that *cold* is the answer because *cold* is closest in meaning to the word *chilly*.

(This section of the test contained

15 items similar to the sample above.)

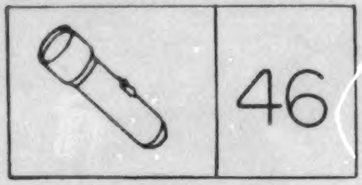
STOP

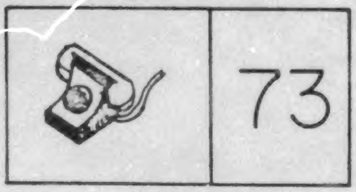
IF YOU FINISH BEFORE TIME IS CALLED, CHECK YOUR WORK ON THIS SECTION ONLY.
DO NOT WORK ON ANY OTHER SECTION IN THE BOOK.

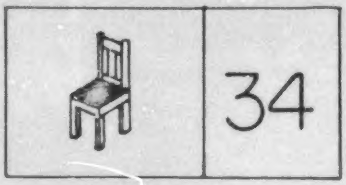
SECTION 2

PICTURE—NUMBER

Directions: This is a test of your ability to remember picture-number combinations. The section has two parts. In each part you will study a page of fifteen pictures with numbers. On a study page the picture-number pairs will look like this:



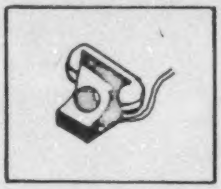




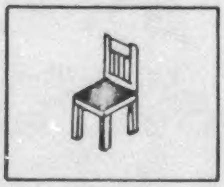
After studying the page showing both pictures and numbers, you will be told to turn to a page showing the pictures in a different order.

Examples:

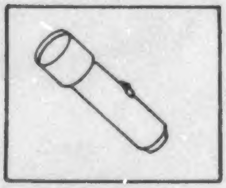
1.



2.



3.



On your answer sheet there are ten boxes with numbers above them for each question. One of the numbers will be the number that goes with the picture. You are to blacken the box with that number above it.

	12	24	31	44	51	57	65	73	77	92
Examples: 1.	☐	☐	☐	☐	☐	☐	☐	■	☐	☐
	15	27	34	41	46	55	62	75	82	89
2.	☐	☐	■	☐	☐	☐	☐	☐	☐	☐
	13	19	28	34	46	58	62	67	73	97
3.	☐	☐	☐	☐	■	☐	☐	☐	☐	☐

The number that goes with the picture of a telephone is 73, so for example 1 you would blacken the box with 73 above it. For example 2 you would blacken the box with 34 above it. For example 3 you would blacken the box with 46 above it.

DO NOT TURN THIS PAGE UNTIL YOU ARE TOLD TO DO SO.

SECTION 3

READING

Time—15 minutes

Directions: Each passage is followed by questions based on its content. After reading a passage, choose the best answer to each question and blacken the corresponding space on the answer sheet. Answer all questions following a passage on the basis of what is stated or implied in that passage.

SAMPLE ITEM:

Of all the forces reshaping the American city, the most powerful and insistent are those rooted in changing methods of transportation. The changes are so big and obvious that it is easy to forget how remarkable they are. The streetcar has all but disappeared, the bus is proving an inadequate substitute, commuter rail service worsens, subways get dirtier, and new expressways pour more and more automobiles into the center of town.

If transit riding continues to decline and if automobile use continues to rise unchecked, how can the vital core of the city survive? Many city planners say flatly that it cannot. The only sure way to relieve congestion and preserve the unifying core of the city, supporters of mass-transit claim, is to get people out of private automobiles and into public transit—"to move people not vehicles."

10. The author suggests that the remarkable changes in transportation are often overlooked for which of the following reasons?

    (A) They have taken place very gradually over the years.
    (B) They have proved to be more effective than old methods.
    (C) They are so obvious that they are taken for granted.
    (D) They have created new problems for city planners.
    (E) They have decreased congestion in the cities.

11. The author mentions all of the following as methods of transportation which have become less popular with commuters EXCEPT

    (A) the bus (B) the automobile
    (C) the streetcar (D) subways (E) railroads

12. The passage is primarily concerned with which of the following?

    (A) Various factors influencing the American city
    (B) The disappearance of the streetcar
    (C) The need for faster automobiles
    (D) The growing network of expressways
    (E) The effects of transportation changes on the city

13. According to the passage, many city planners feel that growing use of automobiles rather than public transit will result in

    (A) the construction of more and more expressways
    (B) the deterioration of the vital center of the city
    (C) the relief of congestion in the city
    (D) a decrease in commuter rail service
    (E) demands for limitations on the use of automobiles

GO ON TO THE NEXT PAGE.

(This section of the test contained
5 reading passages with accompanying
questions similar to the item above.)

SECTION 4

LETTER GROUPS

Directions: Each question in this section consists of five groups of letters with four letters in each group. Four of the groups have a characteristic in common which the fifth group does not have. Decide which group is different, and blacken the space on the answer sheet that corresponds to the position (A, B, C, D, or E) of your choice.

Note: The common characteristic will not be based on the sounds of groups of letters, the shapes of letters, or whether letter combinations form words or parts of words.

	Sample Questions					Sample Answers
	A	B	C	D	E	
1.	NOPQ	DEFL	ABCD	HIJK	UVWX	1. A ■ C D E
2.	NLIK	PLIK	QLIK	THIK	VLIK	2. A B C ■ E

In sample question 1, the letters in four of the groups are in consecutive alphabetical order, but group DEFL in column B is not; so space B has been marked in the sample answers. In sample question 2, four of the groups contain the letter L. Letter group THIK in column D is the group that is different, so space D has been marked in the sample answers.

You will have 15 minutes to work on this section.

DO NOT TURN THIS PAGE UNTIL YOU ARE TOLD TO DO SO.

(This section of the test contained 25 questions similar to the samples above.)

SECTION 5

MATHEMATICS

Directions: Each problem in this section consists of two quantities, one placed in Column A and one in Column B. You are to compare the two quantities and on the answer sheet blacken space

A if the quantity in Column A is greater;
B if the quantity in Column B is greater;
C if the two quantities are equal;
D if the size relationship cannot be determined from the information given.

	Sample Questions		Sample Answers
	Column A	Column B	
Example 1.	20 per cent of 10	10 per cent of 20	1. [A] [B] ■ [D]
Example 2.	6 × 6	12 + 12	2. ■ [B] [C] [D]

Answer C is marked in Example 1 since the quantity in Column A is equal to the quantity in Column B. Answer A is marked for Example 2 since the quantity in Column A is greater than the quantity in Column B.

You will have 15 minutes to work on this section.

DO NOT TURN THIS PAGE UNTIL YOU ARE TOLD TO DO SO.

(This section of the test contained
25 problems following the format
described above.)

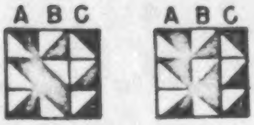
SECTION 6

MOSAIC COMPARISONS

Directions: This test consists of pairs of mosaics, that is, patterns of squares like those found on tiled floors or walls. Each mosaic is made up of a number of partially shaded squares. The mosaics in each pair are identical except for one square which differs in shading. The vertical columns of both mosaics are labeled A to C, A to D, or A to E according to the number of columns in the mosaic. Your task will be to locate, for each pair of mosaics, the column that contains the single square which is shaded differently. Then mark the space on your separate answer sheet that corresponds to the letter at the head of that column.

Sample Question

1.



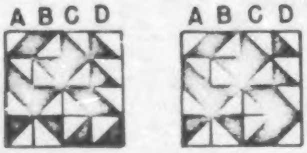
Sample Answer

1. A ■ C

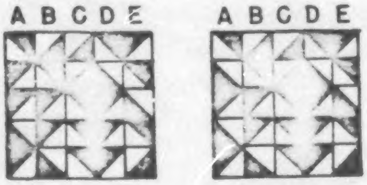
In sample question 1, the right-hand and left-hand mosaics are identical except for the center square of column B, so answer space B is blackened in the sample answer.

Sample Questions

2.



3.



Sample Answers

2. A B C ■

3. ■ B C D E

In sample question 2, the bottom square in column D is the one that is different, so answer space D is blackened in the sample answers. In sample question 3, the second square in column A is the one that is different, so answer space A is blackened in the sample answers.

There are three parts to this test. All the mosaics in a single part are the same size. During the three minutes allowed for each part, you are to work on that part only. Do not move ahead to the next part until you are told to do so. Remember only one square is different for each pair of mosaics.

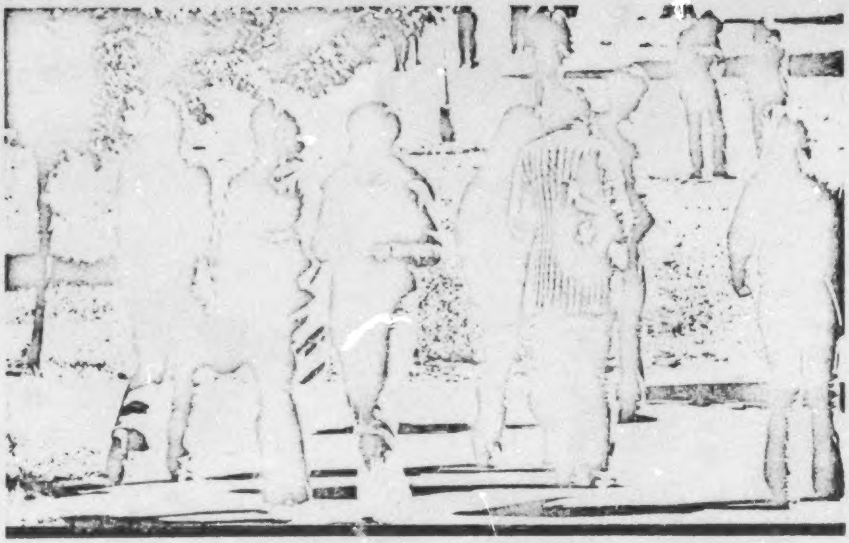
DO NOT TURN THIS PAGE UNTIL YOU ARE TOLD TO DO SO.

(This section contained 116 mosaic comparisons,
divided into 3 parts as follows:

Part 1 - 56 mosaics
Part 2 - 33 mosaics
Part 3 - 27 mosaics
116

APPENDIX B

Survey Administrator's Manual



Survey Administrator's Manual

IMPORTANT

Please read this Manual as soon as you receive it.

'72

NATIONAL LONGITUDINAL STUDY OF THE HIGH SCHOOL CLASS OF 1972

Conducted by
Educational Testing Service, Princeton, New Jersey, for the
UNITED STATES OFFICE OF EDUCATION
Spring 1972

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TO THE SURVEY ADMINISTRATOR

This Manual has been prepared to help you carry out at your school the survey of the National Longitudinal Study (NLS) of the High School Class of 1972. The survey is being conducted for the U. S. Office of Education by Educational Testing Service (ETS).

The NLS is described in the folder *National Longitudinal Study of the High School Class of 1972* and the leaflet *Information for School Administrators*. The project will begin with a survey of students and counselors in 1,200 schools in the United States. The NLS needs the participation of 18 students and 2 counselors (where possible) in each of these schools. The students will require approximately two and one-half hours to complete a questionnaire and a short battery of tests. Counselors will spend 30 to 40 minutes filling out a questionnaire about guidance activities.

The cooperation of the students and counselors is crucial to the success of the NLS. However, you, as the Survey Administrator, have an even more critical role. In addition to answering questions about the school and providing information drawn from the school record of each student invited to participate, you must see that all tasks are carried out so that the survey at your school yields the data it is intended to yield.

This Manual explains your several functions and suggests ways to carry them out efficiently. If, after reading it, you have any questions, please telephone or cable ETS. Instructions for communicating with NLS staff at ETS are given below.

Communicating with NLS Staff at ETS

Please alert the NLS staff at ETS about any serious problem or question you may have about the survey. Call (609) 921-9000 collect from schools in the continental U. S. and ask for the NLS Project or cable from Hawaii (EDUCTESTSVC). Normal business hours are 8:30 a.m. to 4.45 p.m. Eastern Time.

Written communications and shipments of survey materials should be addressed to Educational Testing Service, P.O. Box 2608, Princeton, New Jersey 08540. If you spend any money for a telephone call, mailing, or shipment in connection with the survey, send a letter giving the amount and reason for the expenditure to the above address. You will be reimbursed.

Preparations to Date

Several steps have already been taken by ETS, by your principal, and probably also by you prior to your receiving this Manual. If there are any booklets, memoranda, or other communications about the NLS you haven't already seen, be sure to read them and confirm that all of the following actions have been taken.

1. The NLS publications previously mentioned were received by your principal in early March.
2. By the first week of March, your principal (or you) sent to ETS a Principal's Reply form identifying you as Survey Administrator and specifying preferred administration and makeup (backup) dates between April 4 and April 21.
3. Your principal (or you) sent to ETS a roster of your students in Grade 12 (or equivalent) and a roster of your staff who are assigned twelfth grade counseling duties.
4. About mid-March, ETS mailed an Information Kit of NLS materials to your principal with the request that it be forwarded to you. The Information Kit contains samples of the questionnaires, test book, and answer sheet.
5. A few days ago, you should have received a Sample Roster containing the names of students and counselors selected to participate in the survey and 30 copies of the Student Invitation folder.

If any of the above information was not supplied, telephone ETS immediately to see whether action should be taken to correct the omission. Also, if after reading this Manual, you conclude that you are not able to meet the makeup date previously specified, promptly notify ETS by telephone of the date you prefer.

Overview of Survey Administrator's Activities in April and May 1972

The following list outlines the actions you will be required to take during the course of the survey.

1. Become familiar with the aims and procedures of the survey.
2. Arrange for the release of participating students from classes so they can attend questionnaire and test sessions.
3. Receive the Sample Roster and Student Invitation folders; invite students and counselors named by ETS to participate in the study.
4. Receive shipment of NLS questionnaires and test materials. Return Materials Receipt Acknowledgment postcard.
5. Supply questionnaires to participating counselors; obtain their completed questionnaires.
6. Complete (perhaps with the help of the principal or office staff) the School Questionnaire.
7. Administer the Student Questionnaire and the test battery to participating students.
8. If necessary, arrange makeup session(s) for students to take the tests and complete the questionnaire.

9. Complete (perhaps with office staff help) a Student's School Record Information form for each student invited to participate in the study.
10. Promptly return all completed questionnaires and test answer sheets to ETS for processing.
11. If requested by ETS, supply or ask counselors or students to supply omitted data; forward these data to ETS.
12. If requested by ETS, arrange for an ETS representative to visit your school to appraise the validity of the data; assist the visitor as required.

Each of the above functions except the first is described more fully in the sections that follow.

Administrator's Checklist

On pages 16-17 of this Manual you will find a detailed schedule of Survey Administrator's tasks. A space is provided opposite each item for checking off each task when it is completed. It will facilitate your work if you review pages 16-17 frequently and keep the record up-to-date.

PRELIMINARY ARRANGEMENTS WITH PRINCIPAL AND STAFF

Once your survey materials arrive, you must proceed immediately with the detailed plans and specific arrangements for all of the tasks that are to be performed.

Review the dates sent to ETS on the Principal's Reply form. Be certain that all data collection at your school can be completed by the makeup date.

The most efficient way to handle the survey at your school would be to excuse participating students from classes and other duties for a three-hour period during which the tests would be administered (while the students are fresh) before the questionnaire. Total test administration time is 105 minutes, including 10 minutes for distributing materials and reading initial instructions, 16 minutes for reading instructions for individual tests, five minutes for collecting answer sheets, and a five-minute rest at about the halfway point. The actual testing time for the complete battery is 69 minutes. The time required for completing the Student Questionnaire ranges from 35 to 60 minutes.

If participating students cannot be released for a three-hour period, schedule two shorter periods on consecutive days. Administer the Student Questionnaire on the first day and the tests on the second. Establish the necessary procedures (for example, the issuing of passes to participating students).

You must be able to give definite arrangements and procedures to students at the time you invite them to participate in the NLS project (page 7 of this Manual).

You should also arrange for a room for the test and questionnaire administrations. Make sure that physical factors in the room, such as lighting, heating, and ventilating, will be regulated so that the students are comfortable and able to give full attention to the tests or questionnaire. The room should be in a location free from outside disturbance. The student should have both hands free to deal with a test book and answer sheet. If possible, each should have enough room to read the book and mark the answer sheet without having to pick up or shift either one. Most auditoriums are not suitable testing rooms because of deficiencies in the factors mentioned above.

You may or may not need help from the principal or the school office staff with the School Questionnaire (page 7) and the Student's School Record Information forms (page 7). You will be able to judge your needs after reviewing these materials and the pertinent school records. Make arrangements promptly for any help you do need.

Receiving Survey Materials

This Manual should have reached you with the main shipment of survey materials. Promptly check its contents against the Survey Administrator's Control Sheet. If you find any discrepancy, telephone or cable ETS immediately. Then complete the Materials Receipt Acknowledgment postcard by entering all required information including the School Code (the S.C. number on the Control Sheet) and mail it to ETS. You should have already received by first class mail a large envelope containing the Sample Roster (in duplicate) of students and counselors to be invited to participate in the survey, 30 copies of the Student Invitation folder, and a memorandum entitled "Inviting Students and Counselors to Participate in the National Longitudinal Study." If you have not received the large envelope within two days after arrival of your survey materials, telephone or cable ETS.

Storing Survey Materials

After checking your survey materials, store them in the shipping container in a closet, cupboard, or safe to which only you and authorized persons known to you have access. The test battery must be kept secure to insure accuracy of NLS results. All materials should be on hand when they are needed.

Obtaining the Cooperation of Counselors and Students

The names of the students and counselors listed on your Sample Roster were selected according to the principles of random sampling from the complete rosters of students and counselors supplied to ETS by you or your principal. They are not intended to be representative of your school or of your senior class, although in many cases they will be. The aggregate sample in all 1,200 participating schools is representative of schools, counselors, and students throughout the nation. To retain the representative quality of the sample, it is vital that the students and counselors listed on your Sample Roster participate in the study. The importance of the NLS to today's youth and to the educational system and the unique contribution each individual can make should be impressed upon all those invited to participate.

Although participation in the study is entirely voluntary, it is important that the largest possible number of the selected students and counselors accept the NLS invitation. One of your primary functions as Survey Administrator will be to present the case for participation and obtain the cooperation of those invited students and counselors who seem reluctant to become involved in the project. If despite your best efforts you encounter unusual difficulty in obtaining the cooperation of these students or counselors, telephone ETS.

Inviting Counselors and Students to Participate

Immediately after you examine the Sample Roster, invite the listed counselors and students to take part in the survey. The memo that accompanied your Sample Roster contains detailed instructions for extending these invitations. You will probably wish to meet with the counselors to give them an opportunity to discuss the survey with you. If they wish, counselors may review materials received from ETS. Distribute a Student Invitation folder to each student on the Sample Roster to supplement your own remarks about the importance of participating in the project. Let students know that copies of the questionnaire are available for inspection at school and at home and provide copies for this purpose to students who ask for them. On the Sample Roster, record dates of invitation, acceptance, student receipt of the questionnaire, and test administration. (Keep the two copies of the Sample Roster together so that both will show any notes you make on the top copy.)

At the time a student accepts the invitation to participate in the NLS, repeat the time and place of the scheduled questionnaire and test session(s) and explain any arrangements you have made for students to be excused from classes in order to attend. Tell each student to bring his social security number, and several No. 2 pencils to the test session and these items and his driver's license number to the questionnaire administration.

COMPLETING THE SCHOOL QUESTIONNAIRE

The School Questionnaire asks questions about your school's locale, enrollment, ethnic makeup, staff, services, facilities, practices, and programs, and also about certain kinds of student results. Taken together, the completed questionnaires of the participating schools will yield a profile of the American secondary school.

All, or at least most, of the information required for the School Questionnaire has probably been compiled by the principal or another administrative staff member. The amount of help you need in completing the School Questionnaire will depend upon the availability of such data. Work on the School Questionnaire should begin immediately.

COMPLETING STUDENT'S SCHOOL RECORD INFORMATION FORMS

A Student's School Record Information form will be required for each student invited to participate in the study whether or not he actually accepts. (All data supplied on these forms will be held confidential, as explained below.) Work on these forms should begin as soon as you receive your Sample Roster. The information asked for can be drawn from a student's school records either by you or by a member of the school office staff. If several people work at this task, you must make sure that all of them follow the same procedures for researching and recording data. Review each form for completeness. Note on the Sample Roster the completion of each of these forms.

ADMINISTERING THE COUNSELOR AND STUDENT QUESTIONNAIRES

Confidentiality

It is important that completed Student and Counselor Questionnaires be examined by no one except selected ETS data-processing personnel. Therefore, ETS has provided a Confidential Questionnaire Return Envelope for each participant. These envelopes are marked TO BE OPENED ONLY BY EDUCATIONAL TESTING SERVICE NLS PROJECT MATERIALS CONTROL.

After the participants complete the questionnaires, be certain that they place them in these envelopes and return them sealed to you. You, in turn, will return them sealed to ETS.

After initial check-in at ETS, questionnaires will be identified by number only. One name-number identification file will be prepared and held in secure storage. The file will contain the names and numbers of only those students who complete the questionnaires or take the tests. Names and numbers of students who do not accept the NLS invitation will not appear in this file. The file will be used only for adding information to the main data file. There will be no possibility of associating any person's name with any subgroup or with any item of information.

Counselor Questionnaires

Prepare a questionnaire envelope set for each participating counselor by entering the School Name, School Code, and Counselor Number from the Sample Roster on the cover of the Counselor Questionnaire and the School Code and Counselor Number on a return envelope. Give the appropriate set to each counselor. These questionnaires are self-administered. Ask the counselors to return the completed questionnaires to you in the sealed envelopes within three days.

Student Questionnaires

Prepare a questionnaire envelope set for each student who has agreed to participate. Enter the Student Name, Student Number, and your School Code from your Sample Roster on the cover of the questionnaire. Enter the School Code and Student Number on page 1 and also on the return envelope.

Have several No. 2 pencils and erasers and a pencil sharpener at the questionnaire session. At the session, distribute the appropriate questionnaire envelope sets to the students. The questionnaires are, for the most part, self-administered, but you should read the directions on page 14 of this Manual to the students, answer any questions they may have, and monitor the room to maintain order and insure best results. Urge the students to be alert to the routing directions in the later sections of the questionnaire.

Questionnaire Makeup Session

If any students missed the questionnaire administration, arrange for them to attend a makeup session. If a student cannot attend this session, he may complete the questionnaire before the makeup date. If he is likely to need help in completing the questionnaire, arrange to be present when he fills it out.

GENERAL INSTRUCTIONS FOR GIVING THE TESTS

Before the testing session, study the Timetable for Administering Tests and Questionnaires on page 15. Prepare an answer sheet for each student by entering the School Code, Student Name, School Name, and Student Number.

Supplies You Will Need

When you administer the tests, you should provide the following:

- A reliable watch (not a stop watch or any other mechanical timing device).
- A clock (alarm clock size or larger), if possible, in the event that there is no clock in the testing room. (There should always be two timepieces in the room as a check to prevent mistiming.)
- Several No. 2 pencils and erasers and a pencil sharpener.

Seating the Students

Please follow these guidelines:

- Seat the students randomly as they enter the room. Do not allow them to select their own seats.
- In a classroom, seat students in alternate rows; if space permits, leave every other seat vacant.
- In a cafeteria or library, seat students so that they are at least five feet apart. Candidates should always be seated so they face the same direction.
- Seat left-handed students one behind another in a separate row or in the last seat of each row of right-handed students.
- If chairs with right-hand tablet arms are used, a left-handed student should be seated so that there is a vacant chair to the left for his use.

Regulations in the Testing Room

PROHIBITION OF BOOKS, RULERS, AND OTHER AIDS: The students should have nothing on their desks except their test books, answer sheets, and several No. 2 pencils; they may not use text books, notes, dictionaries, rulers, compasses, protractors, slide rules, or other aids of any kind.

ROUTINE ABSENCES: Routine absences to go to the rest room—unlike other absences that will be discussed below—need not be noted in your survey records. No extra testing time may be allowed for a routine absence during a timed test period, and two or more students should not leave the room at the same time. Collect the test book and answer sheet from any student permitted to leave the room. Return the same test materials to him upon his return.

Problems You May Encounter in Giving the Tests

If any of the following problems occurs in connection with the tests, it should be reported on the Problem Incident Sheet included in this Manual. If you need more space than is provided, attach additional sheets to it. Be sure to indicate the test section in which any problem occurred and to fill in the identifying information. The Problem Incident Sheet will warn ETS of incidents that might affect the data. If you experience no problems in administering the tests, write *NONE* on the Problem Incident Sheet and fill in the identifying information. Return the sheet to ETS with the completed questionnaires and answer sheets.

GROUP MISTIMING: Report all mistimings. Correct any undertiming *before* you dismiss the students. On receipt of a mistiming report, ETS will decide if an overall adjustment of scores should be made.

EMERGENCIES: Emergencies such as power failure, fire, or any other event that distracts the students should be reported on the Problem Incident Sheet. If, in your opinion, the condition is likely to adversely affect student performance, move the students to another testing place. Students should not speak to one another during the move if it occurs while the test administration is in progress. If you are not able to continue satisfactorily in the original location or in another location, halt the administration, and schedule a makeup session. Telephone ETS about any problems or uncertainties regarding the resumption of testing.

DEFECTIVE TEST MATERIALS: If a student has a defective test book, you should collect it, give him a new test book, and direct him to continue working on his original answer sheet. On the cover of the defective test book, print the words DEFECTIVE MATERIAL and indicate the nature and location of the error and your school code. Return the defective test book in the shipment to ETS after the test administration. If a student indicates he has a defective answer sheet, give him a new one and direct him to write only his name on it and continue working with it, starting with the next question or the one he stopped working on. Report all such instances on the Problem Incident Sheet.

STUDENT MISTIMING: If you find a student working on a wrong section of the test, instruct him to proceed to the correct section. Record the identifying information for the student and enter:

Worked ______ minutes on section ______ of

test; missed the time on section ______.

ABSENCE DUE TO ILLNESS: If a student becomes ill and must leave the room during the test, collect his test book and answer sheet.

If he is able to return and continue testing, give him the same test materials. If he has missed a substantial portion of the testing, you may prefer to have him report to the makeup administration and work on those sections of the test he missed, at the time the other students take those sections. If a student is unable to return to the test administration, notify him to report to the makeup session to take the test sections he missed.

In any case, record on the Problem Incident Sheet the identifying information and the test sections that are incomplete because of his illness. Enter:

"Left room after ______ minutes of testing.

Resumed testing on or at (date or time)."

OTHER PROBLEMS: A student may mistakenly mark his answers on the wrong section of his answer sheet or in his test book. All such cases reported or detected should be entered on the Problem Incident Sheet by recording the student's identifying information and a brief explanation. Attach the test book (if it is marked) to the Problem Incident Sheet for return to ETS.

Collecting Test Materials

At the end of the testing session, first collect the test books and then the answer sheets. Do not allow a student to examine a test book or answer sheet after it has been returned to you. As you are collecting the test books, have the students check their answer sheets to make sure that the identifying information is correct.

Before going on to administer the questionnaire or to dismiss the students, count all test books (used, unused, and defective) and confirm that none is missing.

When all test materials are in your possession, please thank the students for participating in the NLS. Then read the directions for completing the questionnaire or dismiss the students. Return the test materials to locked storage until they are ready to be sent to ETS.

Test Makeup Session

As soon as the test administration has been completed, advise those students who missed the session, or who had to leave before the end of the session, of the makeup date and obtain their confirmation that they will attend.

The most important objective of the survey is to gather complete data from students and counselors in your sample. If, to achieve maximum participation, you have to schedule a makeup date later than the one originally announced, try to schedule it before April 21; in any case, telephone ETS promptly.

ASSEMBLING AND MAILING INSTRUCTIONS

Survey materials should be assembled, checked, and returned to ETS as soon as possible but not later than five days after the test makeup administration. Check all completed Student's School Record Information forms to be certain that a form has been completed for each student on the Sample Roster. Count all answer sheets and all envelopes containing Student Questionnaires and Counselor Questionnaires. Indicate on the Roster the items received from each student and counselor. Place all the answer sheets in the single Answer Sheet Envelope.

In the carton supplied for returning NLS materials to ETS, place the following:

- –1 copy of the Sample Roster
- –All completed Student Questionnaires, each in its own return envelope
- –All Counselor Questionnaires, each in its own envelope
- –1 School Questionnaire
- –All completed Student's School Record Information forms
- –All completed answer sheets in the single Answer Sheet Envelope
- –Any defective test books and any test books containing answers (see page 9)
- –Problem Incident Sheet

Attach to the carton one of the shipping labels you received in your main shipment of survey materials and send the carton to ETS. Complete the Notification postcard and mail it to ETS.

FOLLOW-UP
TO OBTAIN MISSING DATA

The NLS Project Materials Control staff will promptly review the returned questionnaires and forms for completeness and will ask you to request students and counselors to supply any information that appears to have been inadvertently omitted. You will not be asked to urge participants to supply information they are reluctant to provide.

The initial shipment of survey materials included a sufficient supply of questionnaires for follow-up work. If, however, you should discover that you need more copies of any item, please call ETS for additional supplies. Prepare a questionnaire envelope set for each counselor or student who will supply missing data. Obtain their numbers from your copy of the Sample Roster. Ask the students and counselors to seal their questionnaires in envelopes. Forward all materials containing supplementary data to ETS in the large (10″x 13″) follow-up envelope included with the basic shipment. ETS will process these questionnaires in the manner and with the confidentiality provisions described on page 7.

DISPOSING OF SURVEY MATERIALS

After the test makeup administration, burn or shred all test books except books to be returned to ETS. If it is not feasible to shred or burn waste materials at your school, return the 20 test books to ETS. Do not send the books before May 1, 1972. Use the second shipping label you received with your survey materials on the carton containing the books.

Do not dispose of copies of the questionnaires or other NLS materials until ETS notifies you that data collection has been satisfactorily completed at your school. Questionnaires and NLS materials other than test books may be disposed of by any convenient means.

VISITS TO SCHOOLS

In order to confirm the validity of the collected data, ETS will visit approximately 5 percent of the participating schools, chosen at random, at mutually convenient times in April or May. If your school is selected for a review of this kind, you will be notified by telephone and requested to help with the arrangements for the visit.

DETAILED INSTRUCTIONS FOR GIVING THE TESTS

Your complete schedule for the administration of the tests follows. Be sure to read these instructions carefully before you administer the tests. At the administration, read aloud to the students all directions **in bold face.** Allow time for the procedure described to be carried out. Do not depart from these directions or answer any question regarding the content of the tests. This will insure that all participants in the survey take the tests under the same conditions.

When all students have been admitted and seated as directed in "Seating the Students" on page 8 of this Manual, distribute an answer sheet to each student. After the answer sheets have been distributed, be certain that each student

–has the appropriate answer sheet

–has a No. 2 pencil

When the students have had time to look at the answer sheet, tell them the following:

Each of you will be given a test book. If you do not understand all of the directions for each section, please raise your hand. Questions will be answered between sections but not after work on any one section has begun. There will be a five-minute rest halfway through the tests. When you receive your test book, read the directions on the back cover and look at me when you have finished. Do not turn your book over or open it until you are told to do so. Are there any questions? . . .

Be sure that for every space or box you fill in, the number on the answer sheet corresponds to the number of the question you are answering. When you fill in the boxes on the answer sheet, darken the ENTIRE box. If you change an answer, erase your first mark completely; incomplete erasures may be read as intended responses. Do not make any stray marks on your answer sheet. Remember that during the time allowed for one section or part, you may work only on it. Do not go on to any other section or part until you are told to do so.

Section 1—Vocabulary

Find the area labeled Section 1—Vocabulary on your answer sheet. In your test book, the section number will appear in the upper corner of the page. If a small number appears to the right of the section number, it will refer to the part within that section. You will have five minutes to work on Section 1. Open your test book to page 3, read the directions, and begin work.

During the administration of the tests, walk about the room to make sure that each student is working on the appropriate section or part and marking his answers in the appropriate area of the answer sheet.

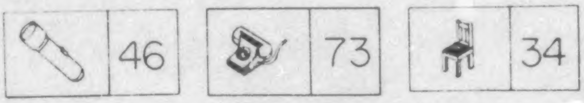
Exactly five minutes later, say:

Please stop work.

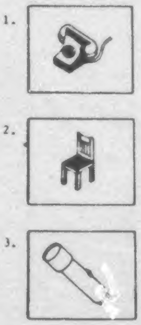
Section 2—Picture-Number

The Picture-Number test is divided into two parts of five minutes each. Each part is further divided into a three-minute segment for study and a two-minute segment for answering. During the time allowed for any one segment, you may work only on that segment. Read the directions on page 5 silently as I read them aloud. Do not turn the page to begin the test until I tell you to do so.

This is a test of your ability to remember picture-number combinations. The section has two parts. In each part you will study a page of 15 pictures with numbers. On a study page the picture-number pairs will look like the examples below.



After studying the page showing both pictures and numbers, you will be told to turn to a page showing the pictures in a different order. Look at the following examples.



On your answer sheet there are 10 boxes with numbers above them for each question. One of the numbers will be the number that goes with the picture. You are to blacken the box with that number above it. See how the examples are marked.

		12	24	31	44	51	57	65	73	77	92
Examples	1.	☐	☐	☐	☐	☐	☐	☐	■	☐	☐
		15	27	34	41	46	55	62	75	82	89
	2.	☐	☐	■	☐	☐	☐	☐	☐	☐	☐
		13	19	28	34	46	58	62	67	[illegible]	97
	3.	☐	☐	☐	☐	■	☐	☐	☐	☐	☐

The number that goes with the picture of a telephone is 73, so for example 1 you would blacken the box with 73 above it. For example 2 you would blacken the box with 34 above it. For example 3 you would blacken the box with 46 above it. Are there any questions? . . . You will have three minutes to study Part 1. Turn to page 7, the study page for Part 1, and study the picture-number pairs.

Exactly three minutes later, say:

You will have two minutes to work on page 9, the test page for Part 1. Turn to page 9 and begin work.

Exactly two minutes later, say:

Please stop work. You will have three minutes to study Part 2. Turn to page 11, the study page for Part 2, and study the picture-number pairs.

Exactly three minutes later say:

You will have two minutes to work on page 13, the test page for Part 2. Turn to page 13 and begin work.

Exactly two minutes later, say:

Please stop work.

Section 3—Reading

You will have 15 minutes to work on Section 3—Reading. Turn to page 15 in your test book, read the directions, and begin work.

Exactly 15 minutes later, say:

Please stop work. Close your book and place it on top of your answer sheet.

Allow the students about five minutes of rest time. You may permit them to leave the room.

A short time before the end of the rest period, summon the students back to the room and say:

Take your seats and get ready to resume work.

Section 4—Letter Groups

You will have 15 minutes to work on Section 4—Letter Groups. Turn to page 19 in your test book and read the directions silently as I read them aloud. Do not turn the page to begin the test until I tell you to do so.

Directions:

Each question in this section consists of five groups of letters with four letters in each group. Four of the groups have a characteristic in common which the fifth group does not have. Decide which group is different and blacken the space on the answer sheet that corresponds to the position (A, B, C, D, or E) of your choice.

Note: The common characteristic will NOT be based on the sounds of groups of letters, the shapes of letters, or whether letter combinations form words or parts of words. Look at the sample questions and sample answers.

Sample Questions

	A	B	C	D	E
1.	NOPQ	DEFL	ABCD	HIJK	UVWX
2.	NLIK	PLIK	QLIK	THIK	VLIK

Sample Answers

1.	A	■	C	D	E
2.	A	B	C	■	E

In sample question 1, the letters in four of the groups are in consecutive alphabetical order, but group DEFL in column B is not; so space B has been marked in the sample answers. In sample question 2, four of the groups contain the letter L. Letter group THIK in column D is the group that is different, so space D has been marked in the sample answers. Are there any questions? . . . You will have 15 minutes to work on this section. Turn the page and begin work.

Exactly 15 minutes later, say:

Please stop work.

Section 5—Mathematics

Turn to the area of your answer sheet labeled Section 5—Mathematics. You will have 15 minutes to work on the Mathematics test.

Turn to page 21 in your test book and read the directions silently as I read them aloud. Do not turn the page to begin the test until I tell you to do so.

Directions:

Each problem in this section consists of two quantities, one placed in Column A and one in Column B. You are to compare the two quantities and on the answer sheet blacken space

- **A if the quantity in Column A is greater;**
- **B if the quantity in Column B is greater;**
- **C if the two quantities are equal;**
- **D if the size relationship cannot be determined from the information given.**

Look at the sample questions and sample answers.

Sample Questions

	Column A	*Column B*
EXAMPLE 1	20 percent of 10	10 percent of 20
EXAMPLE 2	6 × 6	12 + 12

Sample Answers

1. ☐A ☐B ■ ☐D
2. ■ ☐B ☐C ☐D

Answer C is marked in example 1 since the quantity in Column A is equal to the quantity in Column B. Answer A is marked for example 2 since the quantity in Column A is greater than the quantity in Column B.

You will have 15 minutes to work on this section.

Are there any questions? . . . Turn the page and begin work.

Exactly 15 minutes later, say:

Please stop work.

Section 6—Mosaic Comparisons

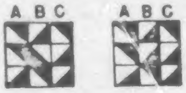
Turn to page 25 in your test book and read the directions for Section 6—Mosaic Comparisons silently as I read them aloud.

Directions:

This test consists of pairs of mosaics, that is, patterns of squares like those found on tiled floors or walls. Each mosaic is made up of a number of partially shaded squares. The mosaics in each pair are identical except for one square which differs in shading. The vertical columns of both mosaics are labeled A to C, A to D, or A to E according to the number of columns in the mosaic. Your task will be to locate, for each pair of mosaics, the column that contains the single square which is shaded differently. Then mark the space on your separate answer sheet that corresponds to the letter at the head of that column. Look at Sample Question 1.

Sample Question

1.

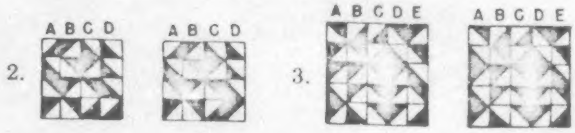


Sample Answer

1. ☐A ■ ☐C

In sample question 1, the right-hand and left-hand mosaics are identical except for the center square of Column B, so answer space B is blackened in the sample answer. Look at examples 2 and 3.

Sample Questions



Sample Answers

2. A B C ■
3. ■ B C D E

In sample question 2, the bottom square in Column D is the one that is different, so answer space D is blackened in the sample answers. In sample question 3, the second square in column A is the one that is different, so answer space A is blackened in the sample answers.

There are three parts to this test. All the mosaics in a single part are the same size. During the three minutes allowed for each part, you are to work on that part only. Do not move ahead to the next part until you are told to do so. Remember only one square is different for each pair of mosaics.

Are there any questions? . . . You will have three minutes to work on Part 1. Turn to page 27 and begin work on Part 1 on your answer sheet.

Exactly three minutes later, say:

Stop work. You will have three minutes to work on Part 2. Turn to page 30 and begin work on Part 2 on your answer sheet.

Exactly three minutes later, say:

Stop work. You will have three minutes to work on Part 3. Turn to page 32 and begin work on Part 3 on your answer sheet.

Exactly three minutes later, say:

Please stop work.

Collect test materials (see page 9).

DETAILED INSTRUCTIONS FOR ADMINISTERING THE STUDENT QUESTIONNAIRE

When all students have been admitted and seated as directed in "Seating the Students" on page 8 of this Manual, make certain that each student has the copy of the questionnaire and the return envelope you have prepared for him. Then read the explanation exactly as it is printed.

The only right answers on this questionnaire are those that reflect your own goals, experiences, and attitudes. In no case will the answers of individual students be singled out. The results, in the form of statistical summaries, will be used for research purposes only. If you are uncertain about any question, please raise your hand and I will try to help you understand what is asked for. Read the directions inside the front cover silently as I read them aloud.

SOCIAL SECURITY NUMBER. If you have a social security number, enter it in the spaces provided on the inside front cover. . . .

Directions

- **This questionnaire is divided into sections of questions. All students are asked to start by answering questions in the sections lettered A, B, and C. Then you will be asked to follow the directions to answer questions in the sections that apply to YOUR particular plans for the year after you leave high school.**
- **Read carefully ALL directions for each question you answer. It is important that you follow these directions carefully.**
- **When you are asked to circle a number, please make a heavy black circle. Look at the example.**

  What grade are you in?

  (Circle one.)

  Grade 9 1
  Grade 10 2
  Grade 11 3
  Grade 12 . . . . [✓ 4]

- **Circle as many numbers as the directions indicate for each question you answer.**
- **Completely erase any answers you wish to change.**

- **When you have completed the questionnaire, put it in the envelope that has been given to you and seal the envelope. No one at your school will see or read your answers.**

This questionnaire is not a test. You may omit any question that you or your parents would consider objectionable.

On page 1, enter the following:

SEX. Circle the appropriate number to indicate your sex. . . .

DATE OF BIRTH. In the spaces provided, enter the numbers indicating the month, the day, and year of your birth. . . .

Now tell the students to fill out the questionnaire on their own.

TIMETABLE FOR ADMINISTERING TESTS AND QUESTIONNAIRES

Listed below is a suggested timetable for administering both the tests and the questionnaire at a single session. Even though you administer the tests and the questionnaire on two consecutive days, you should find this schedule helpful. Note that when both tests and questionnaire are administered in a single session, it is advisable to give the tests first; but if two separate sessions are necessary, the questionnaire should be administered in the first session.

9:00 a.m.	Distribute test materials.
9:10 a.m.	Read instructions for Vocabulary Test.
9:11 a.m.	Begin Vocabulary Test.
9:16 a.m.	Read instructions for Picture-Number Test.
9:18 a.m.	Begin Picture-Number Test.
9:28 a.m.	Read instructions for Reading Test.
9:30 a.m.	Begin Reading Test.
9:45 a.m.	Begin five-minute rest break.
9:50 a.m.	Reassemble students. Read instructions for Letter Groups Test.
9:54 a.m.	Begin Letter Groups Test.
10:09 a.m.	Read instructions for Mathematics Test.
10:13 a.m.	Begin Mathematics Test.
10:28 a.m.	Read instructions for Mosaic Comparisons Test.
10:31 a.m.	Begin Mosaic Comparisons Test.
10:40 a.m.	Stop testing. Collect answer sheets and test books.
10:45 a.m.	Begin 10-minute rest break.
10:55 a.m.	Reassemble students. Distribute Student Questionnaires.
11:00–12:00	Students complete questionnaires, seal them in envelopes, and turn them in. (There is no need, for survey purposes, for a student to remain after he has completed and turned in his questionnaire.)

ADMINISTRATOR'S SCHEDULE OF TASKS

This section of the Manual is designed to help you keep track of the tasks you have to carry out to complete your school's part in the National Longitudinal Study. Tasks that are not self-explanatory have been described in the preceding pages.

Check when completed	*NLS Deadline*	*Task*
______	Upon appointment	1. Confirm that the following have been compiled and sent to ETS via the Principal's Reply form: a. List of your school's students in grade 12 or equivalent b. List of staff members who perform twelfth-grade counseling functions part- or full-time c. Preferred date and makeup date for data collection
______	Upon appointment	2. Read the folder *National Longitudinal Study of the High School Class of 1972* and the leaflet *Information for School Administrators*. Review all other materials.
______	Upon appointment	3. Review the Information Kit sent to your principal.
______	Upon receipt of Sample Roster	4. Invite listed counselors to take part in the survey on the appointed date. Distribute invitations to students on the list and obtain their agreement to participate.
______	Upon receipt of the Survey Administrator's Control Sheet	5. Notify the person at your school who usually receives packages to expect the NLS shipment and to inform you when it arrives.
______	Upon receipt of the shipment	6. Check the shipment. If your shipment is incomplete, call ETS collect immediately. Complete the Materials Receipt Acknowledgment postcard and return it to ETS. Store the materials with care.
______	As soon as possible	7. Arrange for a room for the administration of the questionnaire and tests.
______	Upon receipt of Sample Roster	8. With assistance as needed from school office staff, complete a Student's School Record Information form for each student invited to participate.
______	As soon as possible, but not later than the specified makeup date	9. Complete the School Questionnaire with assistance as needed from principal or school office staff.
______	As soon as possible	10. Record the number and name of each student participant on a Student Questionnaire, envelope, answer sheet, and Student's School Record Information form. Record the identifying information for each counselor participant on a Counselor Questionnaire and envelope.

________	As soon as possible	11. Distribute questionnaires and envelopes (on which you have recorded the appropriate identification) to participating counselors and ask them to return the questionnaires to you within three days.
________	On specified date	12. Administer the Student Questionnaire.
________	On specified makeup date	13. If necessary, administer the Student Questionnaire to students who did not attend the earlier questionnaire session.
________	On specified date	14. Give the tests.
________	On specified makeup date	15. If necessary, give the tests to students who did not attend the earlier test session.
________	After each administration	16. Complete the Problem Incident Sheet.
________	Prior to mailing	17. Check all completed Student's School Record Information forms.
________	After makeup administration	18. Complete the Sample Roster form. Draw a line through the names of those counselors and students who did not participate.
________	As soon as possible but not later than five days after the makeup administration	19. Place the following in the carton provided for return of materials to ETS: –Sealed envelopes containing Counselor Questionnaires –Sealed envelopes containing Student Questionnaires –Answer Sheet Envelope containing test answer sheets –Student's School Record Information forms –School Questionnaire –One copy of Sample Roster –Problem Incident Sheet –Defective test books and test books containing answers to test questions (if any)
________	As soon as possible but not later than five days after the makeup administration	20. Mail the carton. Complete the Notification postcard and mail it to ETS.
________	After makeup administration	21. Destroy the test booklets.
________	When contacted	22. Assist ETS in following up missing data.
________	If requested	23. Arrange for a project staff member to visit the school at a mutually convenient time in April or May.
________	When notified by ETS that your data collection has been completed	24. Destroy all remaining survey materials.

O.M.B. No. 51-S-72008
APPROVAL EXPIRES 1-31-73

NATIONAL LONGITUDINAL STUDY OF THE HIGH SCHOOL CLASS OF 1972

PROBLEM INCIDENT SHEET

(Always include student identification and test section affected.)

SCHOOL NAME

SURVEY ADMINISTRATOR'S SIGNATURE

CITY AND STATE

TODAY'S DATE

SCHOOL CODE

OE FORM 2348-13, 3/72

APPENDIX C

Test Analysis

Test Analysis

NATIONAL LONGITUDINAL STUDY OF THE HIGH SCHOOL CLASS OF 1972

UEE

March, 1973

SR-73-29

EDUCATIONAL TESTING SERVICE

Princeton, New Jersey—Berkeley, California

NATIONAL LONGITUDINAL STUDY OF THE HIGH SCHOOL CLASS OF 1972

UEE

March, 1973 Frances Swineford

The test battery, Form UEE, that provides part of the data collected for a national longitudinal study of the educational and career progress of a carefully designed probability sample of 1972 high-school seniors was administered in the spring of 1972 to 15,863 students, 15,596 of whom became the final working sample for the study. The test outline is as follows:

1. Vocabulary (5 minutes)
2. Picture-Number
   - Part 1. (study 3 minutes, test 2 minutes)
   - Part 2. (study 3 minutes, test 2 minutes)
3. Reading (15 minutes)
4. Letter Groups (15 minutes)
5. Mathematics (15 minutes)
6. Mosaic Comparisons
   - Part 1. (3 minutes)
   - Part 2. (3 minutes)
   - Part 3. (3 minutes)

Eleven scores were obtained for each student: a total score on each of the six sections and the score on each part of Section 2 and Section 6.

NOTES ON PRINCIPAL FINDINGS

Total Group

15,863 national sample of high-school seniors.

Sample

Sample of 1,955 cases slightly more able than total group (but see text).

Appropriateness of Test to Group

All distributions cover effective score range. Letter Groups discriminates better at low end than at high end of score scale.

Reliability

Estimates of .784 for Vocabulary, .845 for Picture-Number, .797 for Reading, .861 for Letter Groups, .866 for Mathematics, and, probably, about .90 for Mosaic Comparisons.

Speededness

Vocabulary, Reading, and Mathematics probably not unduly speeded. Evidence of some degree of speededness in Letter Groups. Speededness not measurable for Picture-Number. Mosaic Comparisons are speed tests, as intended.

Mean Item Difficulty

Mean deltas of 12.8 for Vocabulary, 12.1 for Reading, 10.4 for Letter Groups, and 11.7 for Mathematics. Deltas considered not appropriate for use with such tests as Picture-Number and Mosaic Comparisons. Middle-difficulty reference values are 12.0 for 5-choice items (Sections 1, 3, 4) and 11.7 for 4-choice items (Section 5).

Mean Biserial Correlation

Means of .63 for Vocabulary, .58 for Reading, .65 for Letter Groups, and .61 for Mathematics. Criteria are corresponding total scores.

TOTAL-GROUP STATISTICS

Frequency distributions of nine scores that were obtained for the total group are presented on pages A to E. The part scores for Picture-Number are not included on these pages, since they were not among the reported scores. All the scores extend over a wide range, from less than zero to maximum possible values. If a test were of middle difficulty for this group (except for speed tests), the mean would approximate one-half of the number of items. Vocabulary appears to be somewhat difficult; Letter Groups, quite easy; and Reading and Mathematics, near middle difficulty for the group. Picture-Number and the Mosaic Comparisons tests are speed tests, whose difficulty can not be judged in the same way as that of power tests.

SAMPLE STATISTICS

A sytematic sample of 1,955 cases was drawn for detailed analysis. For this purpose no record was accepted if one or more sections had been left blank for any reason. This restriction is more likely to eliminate low-ability students than the able ones, and the analysis sample is indeed a little more able, on the average, than the total group, as is apparent from the score data for the power tests, given below. Since the total-group scores were recorded to three decimal places and the sample scores were rounded to the nearest whole numbers, with those ending in .5 rounded to the next higher integer, a value of 0.125 has been added to the total-group means for Vocabulary, Reading, and Letter Groups in order to make them comparable with the sample means.

	Sample		Total Group	
	Mean	S.D.	Mean	S.D.
Vocabulary	6.23	4.22	6.14	4.16
Reading	9.71	5.15	9.45	5.12
Letter Groups	16.19	5.96	15.92	6.01
Mathematics ....,	12.53	7.47	12.25	7.43

The mean differences for Reading and Letter Groups are statistically significant at the 5 per cent level of confidence, but the actual differences are considered small from a practical point of view.

Estimates of the reliability of most of the scores are given at the top of page F. Those for Vocabulary, .784; Reading, .797; Letter Groups, .861; and Mathematics, .866, were computed by the Kuder-Richardson formula (20) adapted for use with R-KW scores. Internal estimates, such as those provided by the Kuder-Richardson procedures, are not appropriate for use with speed tests. The best estimate of the reliability of each part of Picture-Number is the correlation between them, .726. The reliability of their sum was computed by the formula,

$$\text{reliability} = 1 - \frac{\text{error variance}}{\text{total variance}} ,$$

where the error variance is the sum of the squared standard errors of measurement of the 15-item parts and the total variance is the variance of the 30-item total score. The resulting reliability estimate is .845. No attempt has been made to assess the reliability of the three Mosaic Comparison tests, for they differ from one another with respect to both complexity of items and number of items. Correlations between any two may well underestimate the reliability of either. The reliability of any one of them is probably no lower than .75 and possibly much higher. The reliability of their sum is probably about .90.

Intercorrelations among all eleven scores are presented in the middle portion of page F. The six correlations among the four power tests range from .496 between Vocabulary and Letter Groups to .686 between Vocabulary and Reading. The correlations among the three parts of Mosaic Comparisons are .74 between Parts 2 and 3, .68 between Parts 1 and 2, and .58 between Parts 1 and 3, which are the most dissimilar pair. It is not possible to judge the Picture-Number test with respect to its power and speed characteristics. Its correlations with the power tests are .292, Vocabulary; .355, Reading; .451, Letter Groups; and .423, Mathematics, and its correlations with the three parts of Mosaic Comparisons are .318, .364, and .352. Thus, on the average, it is more highly correlated with the power scores than with the speed scores, but the difference is extremely small.

Data relating to speededness are given at the bottom of page F. If at least 80 per cent of the group reach the last item and if virtually every one reaches at least three-quarters of the items, speed may be considered an unimportant element in the score. The data for Vocabulary, Reading, and Mathematics satisfy the first of these somewhat arbitrary criteria of an unspeeded test, but none satisfies the second. There is evidence of some speed in Letter Groups, since the last four items were reached by less than 80 per cent of the sample. The data for the Mosaic Comparison tests show all to be highly speeded, as intended. The Picture-Number tests present two difficulties: first, it is not possible to evaluate the timing allotted to the study periods, and, secondly, it can not reasonably be assumed that an examinee would record his responses in item-number order--on the contrary, it is perhaps more likely that he would first pick out the items that he best remembers and then go back to those about which he is less certain. For this reason, it has been decided not to report speed data for this test.

Special score data are presented on pages G to O, which include frequency distributions of the number of items answered right, answered wrong, omitted, and (except Picture-Number) not reached and two-way distributions of Score versus R+W. An unspeeded test would be expected to have a low NR mean and standard deviation and a high proportion of entries in the right-hand columns of the two-way table. A speed test, on the other hand, would have a high NR mean and standard deviation and a high proportion of entries along the main diagonal of the two-way table. Vocabulary, Reading, and Mathematics (pages G, J, and L, respectively) have the characteristics of an unspeeded test. In the case of Letter Groups (page K), the NR data are low enough to suggest that the test is not speeded, but the dropping out through the last five items, already noted, and the configuration of entries near the upper end of the principal diagonal strongly suggest that a substantial proportion of the group would have increased their scores if they had been given more time.

The speed tests, Mosaic Comparison (pages M, N, and O), clearly exhibit the typical speed-test characteristics. Each NR mean exceeds the Score mean, and each NR standard deviation differs little from the Score standard deviation. The mean number of errors is only 0.87 for Part 1, 1.11 for Part 2, and 1.36 for Part 3, the slight increase consistent with the increasing complexity of the item type, and the mean number of omissions is even lower: 0.25, 0.12, and 0.13.

The configurations of entries in the two-way tables for the Picture-Number tests (pages H and I) resemble the typical speed-test configuration. But in this case failure to respond may well be more a function of memory than a function of timing. The R distributions are quite unlike the R distributions for Mosaic Comparisons. Each has its modal value at 15, the maximum possible score--a strong hint that speed is not a prominent element.

If an answer sheet were marked at random, the resulting score would most probably approximate zero, and the chances are 99 out of 100 that it would lie below the dashed line drawn near the bottom of the two-way table. Per cents of scores on the several tests that are within the chance area defined in this manner are more than 34 for Vocabulary, less than 5 for each part of Picture-Number, about 22 for Reading, 6 for Letter Groups, nearly 24 for Mathematics, and no more than 5 for any part of Mosaic Comparisons. The right-hand columns of the Mosaic Comparisons tables consistently contain scores for a few individuals who succeeded in reaching the end with a high degree of accuracy and a handful of individuals with scores within the chance area. One wonders whether the latter examinees failed to understand the directions, or felt constrained to reach the end without due regard for accuracy, or possibly had some visual deficiency that made the task particularly difficult for them.

Item statistics are summarized on page P. At the top of the page are frequency distributions of the difficulty index, delta. The numbers in the stub of the table indicate the range within which delta usually lies. The middle-difficulty value (a useful reference point) varies somewhat with the number of options per item. For a 5-choice item, such as those of Sections 1, 3, and 4, it is about 12.0, and for a 4-choice item (Section 5), it is 11.7. Not only is the Vocabulary mean delta as much as 0.8 higher (harder) than middle difficulty but also only three items are easier than this reference value, a finding that explains the large proportion of Vocabulary scores that are within the chance area.

The Picture-Number test can best be considered as a unit; that is, a group of high-school seniors can in two minutes recall with better than 50 per cent accuracy a set of 15 such items immediately after three minutes of study. For this reason information about individual items has not been included.

The mean deltas of 12.1 for Reading and 11.7 for Mathematics show both tests to be of middle difficulty for this group. The very easy Letter Group test has a mean delta of 10.4, which is 1.6 delta points below the middle-difficulty reference value.

Each part of Mosaic Comparisons is a speed test in the sense that almost every item answered was answered correctly, and few items were omitted. Consequently, item statistics are not reported for these tests.

At the bottom of page P are distributions of the biserial correlations of item scores with criterion scores. The criterion for the items in a column is the score on the section indicated at the head of that column. As one might expect when the group consists of a grade at high-school level, without selection on any basis, these correlations are high. Mean values range from .58 for Reading to .65 for Letter Groups. Few coefficients are in the .40's, and only two are in the .30's. It should also be noted that there may be a noticeable spurious effect on the correlations for Sections 1 and 3, because each item is a substantial part of its own criterion. When there are 25 or more items in a criterion, the spurious effect in the correlation between one of the items and the total is relatively small and may be ignored for practical purposes.

-A-

TEST ANALYSIS REPORT FORM

Test National Longitudinal Study Subject ____ Form UEE

Taken by Grade 12 students Date Spring 1972

Project 825 Job 50

Vocabulary				Picture-Number			
Raw Score X	Standard Score Y	f	Percentile Rank of Lower Limit of Interval	Raw Score X	Standard Score Y	f	Percentile Rank of Lower Limit of Interval
15		342	97.8	30		953	94.0
14		575	94.2	28 - 29		1156	86.7
13		720	89.7	26 - 27		973	80.6
12		208	88.4	24 - 25		920	74.8
11		786	83.4	22 - 23		1068	68.0
10		932	77.5	20 - 21		1143	60.8
9		1208	69.9	18 - 19		1166	53.5
8		1318	61.6	16 - 17		1312	45.2
7		622	57.7	14 - 15		1260	37.3
6		1414	48.8	12 - 13		1301	29.1
5		1544	39.0	10 - 11		1201	21.5
4		1597	29.0	8 - 9		1052	14.9
3		1550	19.2	6 - 7		886	9.3
2		639	15.2	4 - 5		681	5.0
1		1046	8.6	2 - 3		492	1.9
0		772	3.7	0 - 1		250	0.3
- 1		385	1.3	- 2 - - 1		47	0.01
- 2		176	0.2	- 4 - - 3		2	0.00
- 3		29	0.0				
		15863				15863	

M_x = 6.02

σ_x = 4.16

M_y = ____

σ_y = ____

Md_x = 5.64

(15 items)

Conversion Data

No conversion.

M_x = 16.76

σ_x = 8.13

M_y = ____

σ_y = ____

Md_x = 16.64

(30 items)

Conversion Data

No conversion.

TEST ANALYSIS REPORT FORM

Test National Longitudinal Study Subject ______ Form UEE

Taken by Grade 12 students Date Spring 1972

Project 825 Job 50

Reading				Letter Groups			
Raw Score X	Standard Score Y	f	Percentile Rank of Lower Limit of Interval	Raw Score X	Standard Score Y	f	Percentile Rank of Lower Limit of Interval
20		117	99.3	24 - 25		981	93.8
19		312	97.3	22 - 23		1792	82.5
18		572	93.7	20 - 21		2547	66.5
17		88	93.1	18 - 19		2448	51.0
16		740	88.5	16 - 17		1709	40.3
15		1071	81.7	14 - 15		1592	30.2
14		1166	74.4	12 - 13		1162	22.9
13		1275	66.3	10 - 11		1075	16.1
12		318	64.3	8 - 9		901	10.4
11		1167	57.0	6 - 7		493	7.3
10		1275	48.9	4 - 5		526	4.0
9		1206	41.3	2 - 3		246	2.5
8		1179	33.9	0 - 1		243	0.9
7		401	31.4	- 2 - - 1		121	0.2
6		994	25.1	- 4 - - 3		19	0.1
5		957	19.1	- 6 - - 5		8	0.0
4		802	14.0			15863	
3		705	9.6				
2		260	7.9				
1		504	4.8				
0		395	2.3				
- 1		209	0.9				
- 2		107	0.3				
- 3		19	0.2				
- 4		18	0.04				
- 5		6	0.00				
		15863					

M_x = 9.32
σ_x = 5.12
M_y = ______
σ_y = ______
Md_x = 9.88
(20 items)

Conversion Data

No conversion.

M_x = 15.79
σ_x = 6.01
M_y = ______
σ_y = ______
Md_x = 17.13
(25 items)

Conversion Data

No conversion.

TEST ANALYSIS REPORT FORM

Test National Longitudinal Study Subject ______ Form UEE

Taken by Grade 12 students Date Spring 1972

Project 825 Job 50

Mathematics				Mosaic Comparisons, Part 1			
Raw Score X	Standard Score Y	f	Percentile Rank of Lower Limit of Interval	Raw Score X	Standard Score Y	f	Percentile Rank of Lower Limit of Interval
24 - 25		1168	92.6	56		91	99.4
22 - 23		809	87.5	52 - 55		93	98.8
20 - 21		1631	77.3	48 - 51		35	98.6
18 - 19		920	71.5	44 - 47		69	98.2
16 - 17		1609	61.3	40 - 43		121	97.4
14 - 15		949	55.3	36 - 39		244	95.9
12 - 13		1616	45.1	32 - 35		400	93.4
10 - 11		1022	38.7	28 - 31		957	87.3
8 - 9		1582	28.7	24 - 27		2508	71.5
6 - 7		982	22.5	20 - 23		3698	48.2
4 - 5		1422	13.6	16 - 19		3575	25.7
2 - 3		812	8.5	12 - 15		2352	10.8
0 - 1		875	2.9	8 - 11		935	4.9
- 2 - - 1		318	0.9	4 - 7		366	2.6
- 4 - - 3		139	0.1	0 - 3		287	0.8
- 6 - - 5		9	0.0	- 4 - - 1		106	0.2
				- 8 - - 5		25	0.01
		15863		-12 - - 9		1	0.00
						15863	

Mathematics:

$M_x = 12.25$

$\sigma_x = 7.43$

$M_y =$ ______

$\sigma_y =$ ______

$Md_x = 12.37$

(25 items)

Conversion Data

No conversion.

Mosaic Comparisons, Part 1:

$M_x = 19.93$

$\sigma_x = 8.43$

$M_y =$ ______

$\sigma_y =$ ______

$Md_x = 19.80$

(56 items)

Conversion Data

No conversion.

-D-

TEST ANALYSIS REPORT FORM

Test National Longitudinal Study Subject ________ Form UEE

Taken by Grade 12 students Date Spring 1972

Project 825 Job 50

Mosaic Comparisons, Part 2				Mosaic Comparisons, Part 3			
Raw Score X	Standard Score Y	f	Percentile Rank of Lower Limit of Interval	Raw Score Y	Standard Score Y	f	Percentile Rank of Lower Limit of Interval
32 - 33		140	99.1	[illegible]		120	99.2
30 - 31		53	98.8	24 - 25		52	98.9
28 - 29		93	98.2	22 - 23		111	98.2
26 - 27		159	97.2	20 - 21		254	96.6
24 - 25		341	95.0	18 - 19		674	92.4
22 - 23		632	91.1	16 - 17		1018	85.9
20 - 21		980	84.9	14 - 15		1975	73.5
18 - 19		1801	73.5	12 - 13		2495	57.8
16 - 17		2849	55.6	10 - 11		2664	41.0
14 - 15		2771	38.1	8 - 9		2919	22.6
12 - 13		2052	25.2	6 - 7		1610	12.4
10 - 11		1515	15.6	4 - 5		954	6.4
8 - 9		945	9.7	2 - 3		402	3.9
6 - 7		547	6.2	0 - 1		465	0.9
4 - 5		264	4.5	- 2 - - 1		118	0.2
2 - 3		172	3.5	- 4 - - 3		29	0.02
0 - 1		368	1.1	- 6 - - 5		2	0.01
- 2 - - 1		109	0.5	- 8 - - 7		1	0.00
- 4 - - 3		63	0.1			15863	
- 6 - - 5		6	0.02				
- 8 - - 7		3	0.00				
		15863					

M_x = 14.50

σ_x = 5.76

M_y = ______

σ_y = ______

Md_x = 14.91

(33 items)

Conversion Data

No conversion.

M_x = 10.59

σ_x = 4.84

M_y = ______

σ_y = ______

Md_x = 10.41

(27 items)

Conversion Data

No conversion

TEST ANALYSIS REPORT FORM

Test National Longitudinal Study Subject ______ Form UEE

Taken by Grade 12 students Date Spring 1972

Project 825 Job 50

Mosaic Comparisons, Total							
Raw Score X	Standard Score Y	f	Percentile Rank of Lower Limit of Interval	Raw Score X	Standard Score Y	f	Percentile Rank of Lower Limit of Interval
114 - 116		43	99.7				
108 - 114		50	99.4				
102 - 108		14	99.3				
96 - 102		27	99.2				
90 - 96		36	98.9				
84 - 90		79	98.4				
78 - 84		145	97.5				
72 - 78		281	95.7				
66 - 72		593	92.0				
60 - 66		1112	85.0				
54 - 60		1842	73.4				
48 - 54		2579	57.1				
42 - 48		2824	39.3				
36 - 42		2361	24.4				
30 - 36		1658	14.0				
24 - 30		956	8.0				
18 - 24		528	4.6				
12 - 18		252	3.0				
6 - 12		152	2.1				
0 - 6		206	0.8				
- 6 - - 0		93	0.2				
- 12 - - 6		24	0.1				
- 18 - - 12		7	0.01				
- 24 - - 18		1	0.00				
		15863					

M_x = 45.01

σ_x = 16.43

M_y = ______

σ_y = ______

Md_x = 45.10

(116 items)

Conversion Data

No conversion.

M_x = ______

σ_x = ______

M_y = ______

σ_y = ______

Md_x = ______

Conversion Data

-F-

Test National Longitudinal Study **Subject** ________ **Form** UEE

Description of Sample: N = 1,955

Spaced sample

Scoring Formulae and Reliability Coefficients for Sections

Section of Test	Scoring Formula	Reliability*	SE meas.	Section of Test	Scoring Formula	Reliability*	SE meas.
1 Vocabulary	R-W/4	.784	1.96	4 Letter Groups	R-W/4	.861	2.23
2 Picture-Number:				5 Mathematics	R-.333W	.866	2.73
1	R-.111W	.726**	2.28	6 Mosaic Compar.:			
2	R-.111W	.726**	2.14	1	R-W/2		
Total	R-.111W	.845**	3.13	2	R-.333W		
3 Reading	R-W/4	.797	2.32	3	R-W/4		

*Adaptation of Kuder-Richardson formula (20). **See text.

Intercorrelations of Sections

Section	1	2-1	2-2	2	3	4	5	6-1	6-2	6-3	6
1 Vocabulary		.284	.254	.292	.686	.496	.610	.210	.276	.283	.282
2 Pic.-Num.: 1	.284		.726	.933	.351	.448	.413	.305	.354	.338	.372
2	.254	.726		.924	.300	.387	.368	.284	.321	.314	.343
Total	.292	.933	.924		.355	.451	.423	.318	.364	.352	.386
3 Reading	.686	.351	.300	.355		.595	.667	.274	.342	.342	.354
4 Letter Groups	.496	.448	.387	.451	.595		.674	.387	.488	.460	.494
5 Mathematics	.610	.413	.368	.423	.667	.674		.326	.388	.389	.409
6 Mosaic: 1	.210	.305	.284	.318	.274	.387	.326		.683	.579	.900
2	.276	.354	.321	.364	.342	.488	.388	.683		.739	.900
3	.283	.338	.314	.352	.342	.460	.389	.579	.739		.833
Total	.282	.372	.343	.386	.354	.494	.409	.900	.900	.833	

Speededness of Sections

Section	1	2-1	2-2	3	4	5	6-1	6-2	6-3		
Per cent completing test..	82.3			81.8	57.6	85.0	1.3	1.7	2.0		
Per cent completing 75 per cent of test .	94.7			95.9	94.7	96.3	2.5	6.2	6.1		
Number of items reached by 80 per cent of the candidates	15			20	21	25	15	12	9		
Total number of items	15	15	15	20	25	25	56	33	27		

TEST National Longitudinal Study

SECTION 1

SUBJECT Vocabulary

ITEMS 15 (5-choice)

FORM UEE

R - W / SCORE	1 TO	2 TO	3 TO	4 TO	5 TO	6 TO	7 TO	8 TO	9 TO	10 TO	11 TO	12 TO	13 TO	14 TO	15 TO	TO	TO	SCORE	R (RIGHT)		W (WRONG)		O (OMIT)		N R (NOT REACHED)	
																		f	Number of Items	f	Number of Items	f	Number of Items	f	Number of Items	f
																			15	54	15	3				
																			14	84	14	10			14	1
																			13	78	13	29			13	-
																			12	92	12	55			12	-
																			11	127	11	80	11	2	11	-
																			10	150	10	137	10	-	10	3
14- 15														13	125			138	9	180	9	139	9	4	9	7
12- 13													12	21	65			98	8	193	8	180	8	13	8	11
10- 11										1	7	20	17	24	148			217	7	198	7	179	7	18	7	16
8- 9									9	15	15	13	37	37	202			328	6	186	6	193	6	37	6	21
6- 7						1	1	4	8	9	31	30	42	16	102			244	5	190	5	200	5	47	5	33
4- 5				1	3	9	2	6	25	22	27	13	16	33	219			376	4	180	4	199	4	83	4	47
2- 3		1	2	1	1	6	22	14	20	13	16	19	24	30	102			271	3	115	3	192	3	87	3	57
0- 1	1	2	2	2	5	5	8	6	3	16	18	10	9	6	115			208	2	74	2	153	2	163	2	85
-2- -1				1				5	2	8	3		4	13	34			70	1	45	1	126	1	216	1	65
-4- -3											2				3			5	0	9	0	80	0	1285	0	1609
TOTAL	1	3	4	5	9	21	33	35	67	84	119	105	161	193	1115			1955	1955		1955		1955		1955	

	SCORE	R	W	O	N R
MEAN	6.28	7.61	5.82	0.96	0.61
STANDARD DEVIATION	4.22	3.54	3.34	1.75	1.61

SCORE R-.2500W

1. Vocabulary

110

TEST National Longitudinal Study

SUBJECT Picture-Number

FORM UEE

SECTION 2, Part 1

ITEMS 15 (10-choice)

R - W / SCORE	1 TO	2 TO	3 TO	4 TO	5 TO	6 TO	7 TO	8 TO	9 TO	10 TO	11 TO	12 TO	13 TO	14 TO	15 TO	TO	TO	SCORE f	R (RIGHT) Number of Items	R (RIGHT) f	W (WRONG) Number of Items	W (WRONG) f	O (OMIT) Number of Items	O (OMIT) f	N R (NOT REACHED) Number of Items	N R (NOT REACHED) f
15															229			229								
14														79	41			120	15	229						
13													76	29	13			118	14	120			14	7		
12												71	31	10	4			116	13	118			13	23		
11											44	21	8	4				77	12	116			12	75		
10										81	39	10	3					133	11	77			11	121		
9									62	47	4	6	3					122	10	133	10	1	10	151		
8								78	46	13	9	1		1				148	9	123	9	-	9	160		
7							78	57	15	5	3		3		1			162	8	151	8	2	8	172		
6						63	42	24	9	5		1	1					145	7	160	7	11	7	187		
5					59	46	20	9	7		4	1	1					147	6	149	6	10	6	149		
4				43	55	29	11	9		1	1							149	5	143	5	29	5	156		
3			23	27	20	8	12		5	1	1	1						98	4	155	4	67	4	105		
2		15	28	26	10	11		5	2	2								99	3	99	3	102	3	112		
1	4	6	16	16	7		6	2	2									59	2	100	2	210	2	126		
0	3	2	8	9		3	2	3	1									31	1	58	1	518	1	123		
-1							1			1								2	0	24	0	1005	0	288		
TOTAL	7	23	75	121	151	160	172	187	149	156	105	112	126	123	286			1955	1955		1955		1955			

	SCORE	R (RIGHT)	W (WRONG)	O (OMIT)	N R (NOT REACHED)
MEAN	8.38	8.41	0.93	5.66	
STANDARD DEVIATION	4.35	4.31	1.34	3.84	

SCORE R-.1110W

2. Picture-Number, Part 1

I.N. 399285

111

TEST National Longitudinal Study

SECTION 2, Part 2

SUBJECT Picture-Number

ITEMS 15 (10-choice)

FORM UEE

R - W / SCORE	1 TO	2 TO	3 TO	4 TO	5 TO	6 TO	7 TO	8 TO	9 TO	10 TO	11 TO	12 TO	13 TO	14 TO	15 TO	TO	TO	SCORE f	R (RIGHT) Number of items	R (RIGHT) f	W (WRONG) Number of items	W (WRONG) f	O (OMIT) Number of items	O (OMIT) f	N R (NOT REACHED) Number of items	N R (NOT REACHED) f
15															202			202								
14														62	62			124	15	202						
13													69	55	23			147	14	124			14	5		
12												46	30	27	11			114	13	147			13	14		
11											49	40	22	10	1			122	12	114			12	27		
10										51	34	21	19	4				129	11	122			11	41		
9									57	36	29	11	10					143	10	129	10	1	10	112		
8								60	51	23	11	8		3				156	9	146	9	3	9	152		
7							65	43	29	21	8		6	1				173	8	160	8	5	8	188		
6						50	53	29	21	16		7	1	1				178	7	175	7	10	7	169		
5					28	39	23	17	9		4	5		2				143	6	180	6	22	6	182		
4				15	24	27	19	13		7	2							107	5	141	5	53	5	162		
3			11	7	25	18	13		10	3	2							89	4	113	4	110	4	143		
2		4	9	12	10	12		4	4	4	2	1						62	3	89	3	173	3	139		
1	3	5	5	3	12		4	1			1							34	2	53	2	306	2	157		
0	2	5	2	4		5	4	2	1	1	1							27	1	42	1	490	1	165		
-1					3	1	1											5	0	18	0	782	0	299		
TOTAL	5	14	27	41	112	152	183	169	182	162	143	139	157	165	299			1955	1955		1955		1955			
MEAN																		6.72	8.77		1.33		4.90			
STANDARD DEVIATION																		4.09	4.03		1.57		3.51			

SCORE R-.111Cw

2. Picture-Number, Part 2

TEST National Longitudinal Study SUBJECT Reading FORM UEE

SECTION 3 ITEMS 20 (5-choice)

R - W / SCORE	5 TO	6 TO	7 TO	8 TO	9 TO	10 TO	11 TO	12 TO	13 TO	14 TO	15 TO	16 TO	17 TO	18 TO	19 TO	20 TO	TO	SCORE f	R (RIGHT) Number of Items	R (RIGHT) f	W (WRONG) Number of Items	W (WRONG) f	O (OMIT) Number of Items	O (OMIT) f	N R (NOT REACHED) Number of Items	N R (NOT REACHED) f
																									15	1
																									14	-
																									13	-
19- 20															2	64		66							12	-
17- 18															11	80		91							11	5
15- 16												1	7	3	8	221		240	20	12	20	2			10	3
13- 14											2	2	6	18	28	241		297	18- 19	137	18- 19	7			9	6
11- 12								1	4	4		2	12	12	20	121		176	16- 17	244	16- 17	49	8	1	8	11
9- 10						1	1	3	5	2	9	11	7	6	35	236		316	14- 15	300	14- 15	120	7	-	7	36
7- 8					1			3	7	3	1	4	23	10	15	95		162	12- 13	312	12- 13	188	6	2	6	19
5- 6	1				1	1	5	2	6	4	7	11	19	8	14	179		258	10- 11	297	10- 11	261	5	8	5	20
3- 4					3	1	2	2	7	5	5	5	6	12	13	125		186	8- 9	269	8- 9	329	4	7	4	18
1- 2					1		1	2	5	2	4	5	17	5	6	33		81	6- 7	202	6- 7	349	3	20	3	99
-1- 0							1		1	3		1	3	2	12	43		66	4- 5	139	4- 5	326	2	38	2	31
-3- -2													4	1	2	5		12	2- 3	37	2- 3	247	1	159	1	106
-5- -4																4		4	0- 1	6	0- 1	77	0	1720	0	1600
TOTAL	1	-	-	-	6	3	10	13	35	23	28	42	104	77	166	1447		1955	1955		1955		1955		1955	
MEAN																		9.71	11.50		7.67		0.20		0.64	
STANDARD DEVIATION																		5.15	4.22		3.99		0.66		1.73	

SCORE R-.250W

3. Reading

113

I.N. 399285

TEST National Longitudinal Study SUBJECT Letter Groups FORM UEE

SECTION 4 ITEMS 25 (5-choice)

R-W / SCORE	1 TO 2	3 TO 4	5 TO 6	7 TO 8	9 TO 10	11 TO 12	13 TO 14	15 TO 16	17 TO 18	19 TO 20	21 TO 22	23 TO 24	25 TO	TO	TO	TO	TO	SCORE f	R (RIGHT) Number of Items	R (RIGHT) f	W (WRONG) Number of Items	W (WRONG) f	O (OMIT) Number of Items	O (OMIT) f	N R (NOT REACHED) Number of Items	N R (NOT REACHED) f
24- 25												32	101					133								
22- 23											36	135	63					234					14	1		
20- 21										31	131	62	119					343					13	-		
18- 19									13	72	40	44	81					250	24- 25	133	24- 25	1	12	-		
16- 17								2	49	35	62	43	44					235	22- 23	294	22- 23	5	11	1	22- 23	1
14- 15							4	23	19	40	25	27	61					199	20- 21	358	20- 21	17	10	6	20- 21	-
12- 13						3	11	11	32	15	20	30	21					143	18- 19	295	18- 19	33	9	10	18- 19	-
10- 11						4	4	13	12	18	14	11	46					122	16- 17	245	16- 17	54	8	8	16- 17	-
8- 9					3	4	2	4	8	6	7	17	52					103	14- 15	200	14- 15	62	7	29	14- 15	4
6- 7				1	2		2	3	10	4	5	5	27					59	12- 13	159	12- 13	71	6	24	12- 13	5
4- 5		1			2	1	1	1	2	2		10	47					67	10- 11	105	10- 11	89	5	56	10- 11	13
2- 3		1			1				1	2	1	6	13					25	8- 9	85	8- 9	131	4	83	8- 9	49
0- 1	2							1				3	18					24	6- 7	47	6- 7	198	3	137	6- 7	82
-2- -1											1	1	13					15	4- 5	24	4- 5	260	2	218	4- 5	225
-4- -3													1					1	2- 3	6	2- 3	466	1	340	2- 3	163
-6- -5												1	1					2	0- 1	4	0- 1	568	0	1042	0- 1	1413
TOTAL	2	2	-	1	8	12	24	58	146	225	342	427	708					1955	1955		1955		1955		1955	
MEAN																		16.19	17.30		4.98		1.23		1.49	
STANDARD DEVIATION																		5.96	4.92		4.35		1.88		2.47	

SCORE R-.250W

4. Letter Groups

-K-

TEST National Longitudinal Study

SUBJECT Mathematics

FORM UEE

SECTION 5

ITEMS 25 (4-choice)

SCORE \ R + W	1 TO 2	3 TO 4	5 TO 6	7 TO 8	9 TO 10	11 TO 12	13 TO 14	15 TO 16	17 TO 18	19 TO 20	21 TO 22	23 TO 24	25 TO	TO	TO	TO	TO	SCORE f
24- 25													156					156
22- 23											1	4	93					98
20- 21										1	1	22	198					222
18- 19										1	13	16	77					107
16- 17									1	6	13	29	165					214
14- 15								1	4	3	17	22	73					120
12- 13									7	10	18	19	139					193
10- 11							1	1	4	6	14	16	80					122
8- 9						3	3	2	10	2	8	20	134					182
6- 7						2	4	4	5	9	9	18	67					118
4- 5				1	1		1	4	8	7	6	18	106					154
2- 3		2		2	1	2	5	4	5	8	13	9	55					106
0- 1	2			2		1	2	2	7	5	3	6	75					107
-2- -1							1	1	2	3	1	6	27					41
-4- -3									1			5	8					14
-6- -5													1					1
TOTAL	2	2	-	5	2	8	17	19	54	61	119	212	1454					1955

R (RIGHT) Number of items	R f	W (WRONG) Number of items	W f	O (OMIT) Number of items	O f	N R (NOT REACHED) Number of items	N R f
24- 25	156						
22- 23	197	22- 23	3			22- 23	1
20- 21	214	20- 21	38	20- 21	1	20- 21	-
18- 19	221	18- 19	85	18- 19	-	18- 19	1
16- 17	198	16- 17	124	16- 17	1	16- 17	2
14- 15	220	14- 15	163	14- 15	-	14- 15	1
12- 13	186	12- 13	194	12- 13	1	12- 13	5
10- 11	178	10- 11	208	10- 11	2	10- 11	11
8- 9	174	8- 9	207	8- 9	7	8- 9	40
6- 7	126	6- 7	255	6- 7	15	6- 7	26
4- 5	70	4- 5	260	4- 5	31	4- 5	63
2- 3	13	2- 3	248	2- 3	90	2- 3	111
0- 1	2	0- 1	170	0- 1	1807	0- 1	1694
1955		1955		1955		1955	

	SCORE	R	W	O	N R
MEAN	12.53	15.38	8.55	0.38	0.70
STANDARD DEVIATION	7.47	5.80	5.40	1.28	2.09

SCORE R-.3330W

5. Mathematics

TEST National Longitudinal Study

SUBJECT Mosaic Comparisons

FORM UEE

SECTION 6, Part 1

ITEMS 56 (3-choice)

R + W / SCORE	1 TO 4	5 TO 8	9 TO 12	13 TO 16	17 TO 20	21 TO 24	25 TO 28	29 TO 32	33 TO 36	37 TO 40	41 TO 44	45 TO 48	49 TO 52	53 TO 56	TO	TO	TO	SCORE f	R (RIGHT) Number of Items	R (RIGHT) f	W (WRONG) Number of Items	W (WRONG) f	O (OMIT) Number of Items	O (OMIT) f	N R (NOT REACHED) Number of Items	N R (NOT REACHED) f
55- 56														17				17					32- 33	1		
51- 54														2				2					30- 31	2		
47- 50												4	1					5	56	9			28- 29	-		
43- 46											2	1						3	52- 55	10	39- 41	2	26- 27	2	52- 55	4
39- 42										4	4	1						9	48- 51	1	36- 38	1	24- 25	-	48- 51	35
35- 38									12	12								24	44- 47	6	33- 35	1	22- 23	4	44- 47	135
31- 34								19	29	2								50	40- 43	9	30- 32	1	20- 21	-	40- 43	347
27- 30							67	63	5									135	36- 39	19	27- 29	1	18- 19	-	36- 39	458
23- 26						251	139	4										394	32- 35	46	24- 26	3	16- 17	-	32- 35	533
19- 22					202	250	14	3		1	1			1				472	28- 31	108	21- 23	1	14- 15	1	28- 31	225
15- 18				159	246	18		1	1					1				426	24- 27	327	18- 20	2	12- 13	1	24- 27	98
11- 14			63	168	12	3		2		1								249	20- 23	475	15- 17	7	10- 11	5	20- 23	48
7- 10		8	58	15	1	1	2							1				86	16- 19	463	12- 14	11	8- 9	5	16- 19	22
3- 6	1	16	8	6	2	3		1										37	12- 15	297	9- 11	13	6- 7	8	12- 15	7
-1- 2	4	12	8	4	1	4	1			1		1		1				37	8- 11	115	6- 8	22	4- 5	5	8- 11	13
-5- -2				2	2			1	1					2				8	4- 7	47	3- 5	81	2- 3	11	4- 7	1
-9- -6					1													1	0- 3	23	0- 2	1809	0- 1	1910	0- 3	29
TOTAL	5	36	137	354	467	530	223	94	48	21	7	7	1	25				1955	1955		1955		1955		1955	
MEAN																		19.65	19.58		0.87		0.25		34.90	
STANDARD DEVIATION																		7.87	7.50		2.91		2.02		7.90	

SCORE R-.500W

6. Mosaic Comparisons, Part 1

-M-

TEST National Longitudinal Study SUBJECT Mosaic Comparisons FORM UEE

SECTION 6, Part 2 ITEMS 33 (4-choice)

R + W / SCORE	1 TO 2	3 TO 4	5 TO 6	7 TO 8	9 TO 10	11 TO 12	13 TO 14	15 TO 16	17 TO 18	19 TO 20	21 TO 22	23 TO 24	25 TO 26	27 TO 28	29 TO 30	31 TO 32	33 TO	SCORE f	R (RIGHT) Number of Items	R f	W (WRONG) Number of Items	W f	O (OMIT) Number of Items	O f	N R (NOT REACHED) Number of Items	N R f
																			32- 33	15						
																			30- 31	5	30- 31	1			30- 31	1
																			28- 29	15	28- 29	-			28- 29	13
32- 33																2	13	15	26- 27	21	26- 27	5			26- 27	39
29- 31															7	1	3	11	24- 25	35	24- 25	2			24- 25	93
26- 28													14	12	1	2		29	22- 23	89	22- 23	1	22- 23	1	22- 23	141
23- 25												57	18	3				78	20- 21	130	20- 21	3	20- 21	-	20- 21	227
20- 22										55	91	21	3	1				171	18- 19	216	18- 19	5	18- 19	-	18- 19	370
17- 19									255	114	12	3		1			1	386	16- 17	388	16- 17	5	16- 17	1	16- 17	393
14- 16							110	339	89	20	5	3	1					567	14- 15	369	14- 15	9	14- 15	1	14- 15	279
11- 13						147	156	34	12			1	1		1			352	12- 13	256	12- 13	9	12- 13	-	12- 13	155
8- 10				28	88	31	21	6	2	1		1		1				179	10- 11	165	10- 11	10	10- 11	2	10- 11	99
5- 7			16	26	18	5	4	2	1	2		1				1	2	78	8- 9	115	8- 9	14	8- 9	2	8- 9	61
2- 4		3	1	9	4	4	4	4		3		4	1					37	6- 7	62	6- 7	21	6- 7	4	6- 7	24
-1- 1	2	4	2	7	3	2	1	4	2	4			2	1			1	35	4- 5	40	4- 5	39	4- 5	3	4- 5	20
-4- -2					2	2	1		1	1	1		1		1		5	15	2- 3	24	2- 3	223	2- 3	20	2- 3	6
-7- -5										1							1	2	0- 1	10	0- 1	1608	0- 1	1921	0- 1	34
TOTAL	2	7	19	70	115	191	297	389	362	201	109	91	41	19	10	6	26	1955	1955		1955		1955		1955	

	SCORE	R	W	O	N R
MEAN	14.74	15.07	1.11	0.12	16.70
STANDARD DEVIATION	5.55	5.12	2.90	0.94	4.99

SCORE R-.3330W

6. Mosaic Comparisons, Part 2

TEST National Longitudinal Study

SUBJECT Mosaic Comparisons

FORM UEE

SECTION 6, Part 3

ITEMS 27 (5-choice)

R + W / SCORE	1 TO 2	3 TO 4	5 TO 6	7 TO 8	9 TO 10	11 TO 12	13 TO 14	15 TO 16	17 TO 18	19 TO 20	21 TO 22	23 TO 24	25 TO 26	27 TO	TO	TO	TO	SCORE f	R (RIGHT) Number of Items	R f	W (WRONG) Number of Items	W f	O (OMIT) Number of Items	O f	N R (NOT REACHED) Number of Items	N R f
27														9				9								
25- 26													5	5				10								
23- 24												3		1				4								
21- 22											16	2	1	2				21	26- 27	14	26- 27	1			26- 27	1
19- 20										45	7		1					53	24- 25	7	24- 25	-			24- 25	1
17- 18									91	16	2	1		2				114	22- 23	12	22- 23	7			22- 23	48
15- 16								126	29	5		1						161	20- 21	28	20- 21	5			20- 21	130
13- 14							253	50	10	2								315	18- 19	88	18- 19	5	18- 19	1	18- 19	343
11- 12						227	55	13	3	2			1	1				302	16- 17	136	16- 17	11	16- 17	1	16- 17	359
9- 10					276	73	23	10	2									384	14- 15	245	14- 15	3	14- 15	-	14- 15	323
7- 8				160	106	13	17	3	1	1		1		1				303	12- 13	307	12- 13	10	12- 13	-	12- 13	336
5- 6			65	27	24	8	4	6	2	2		1	1	2				142	10- 11	351	10- 11	20	10- 11	-	10- 11	180
3- 4		11	19	8	14	2	4	5	3	2		1	1	1				70	8- 9	403	8- 9	15	8- 9	4	8- 9	105
1- 2		1	7	8		2	3	4	2		2	1	1	4				35	6- 7	211	6- 7	30	6- 7	2	6- 7	55
-1- 0	1	1	4	1	2	2	3	2		4				5				25	4- 5	109	4- 5	78	4- 5	2	4- 5	19
-3- -2					1				1		2			1				5	2- 3	32	2- 3	266	2- 3	25	2- 3	10
-5- -4												1		1				2	0- 1	12	0- 1	1504	0- 1	1920	0- 1	45
TOTAL	1	13	94	204	423	327	362	219	144	81	29	12	11	35				1955	1955		1955		1955		1955	

	SCORE	R	W	O	N R
MEAN	10.87	11.11	1.36	0.13	14.40
STANDARD DEVIATION	4.59	4.32	3.00	0.80	4.43

SCORE R-.250W

6. Mosaic Comparisons, Part 3

-P-

Test National Longitudinal Study **Subject** ______ **Form** UEE

Frequency Distributions of Original Deltas and Biserial Correlations, by Sections

Standard Δ = a(original Δ) + b

Delta	Section 1		3		4		5			
19.0 up ..										
18.0-18.9										
17.0-17.9										
16.0-16.9			1		1					
15.0-15.9	1		-		-					
14.0-14.9	4		2		1		1			
13.0-13.9	3		5		-		4			
12.0-12.9	4		4		2		9			
11.0-11.9	-		1		6		2			
10.0-10.9	1		3		5		6			
9.0- 9.9	1		3		3		3			
8.0- 8.9	1		1		2					
7.0- 7.9					4					
6.0- 6.9					1					
Total	15		20		25		25			
Mean	12.8		12.1		10.4		11.7			
σ	2.0		2.0		2.1		1.4			
a										
b										

r_{bis}										
.90-.99										
.80-.89										
.70-.79	5				9		5			
.60-.69	6		9		9		11			
.50-.59	2		9		6		7			
.40-.49	1		2		1		1			
.30-.39	1						1			
.20-.29										
.10-.19										
.00-.09										
Negative .										
Total	15		20		25		25			
Not Comp.										
Mean	.63		.58		.65		.61			
σ	.10		.07		.08		.09			

APPENDIX D

Item P-Values

TABLE D-1

ITEM P-VALUES BY GROUP

VOCABULARY

ITEM	AI	AA	MA	PR	OL	OR	WE	WC	WS	WW	ITEM	
											MEAN	S.D.
I- 1	.747	.714	.715	.823	.757	.881	.924	.914	.904	.915	.829	.084
I- 2	.315	.330	.349	.266	.561	.563	.590	.503	.505	.621	.460	.125
I- 3	.551	.477	.551	.595	.579	.790	.636	.800	.759	.810	.675	.129
I- 4	.388	.344	.420	.582	.617	.670	.758	.651	.563	.702	.569	.134
I- 5	.674	.655	.578	.633	.589	.790	.868	.865	.871	.872	.739	.119
I- 6 .	.472	.408	.445	.468	.505	.523	.599	.581	.566	.570	.514	.061
I- 7	.354	.314	.304	.266	.327	.574	.666	.592	.542	.638	.458	.149
I- 8	.264	.189	.198	.139	.243	.392	.420	.403	.360	.385	.299	.099
I- 9	.326	.244	.308	.215	.364	.403	.510	.478	.441	.530	.382	.103
I-10	.331	.246	.233	.266	.262	.438	.514	.486	.468	.519	.376	.113
I-11	.225	.162	.184	.076	.178	.375	.435	.378	.313	.396	.272	.116
I-12	.157	.155	.147	.139	.140	.313	.381	.325	.301	.317	.238	.092
I-13	.287	.216	.249	.228	.355	.341	.350	.317	.322	.338	.300	.050
I-14	.270	.207	.257	.190	.346	.273	.378	.299	.314	.313	.285	.055
I-15	.264	.158	.216	.241	.327	.392	.506	.401	.395	.455	.335	.107
GROUP												
MEAN	.375	.321	.344	.342	.410	.514	.582	.533	.508	.559		
S.D.	.1613	.1695	.1602	.2139	.1742	.1849	.1826	.1925	.1919	.1927		

TABLE D-2

ITEM P-VALUES BY GROUP

PICTURE-NUMBER

ITEM	AI	AA	MA	PR	OL	OR	WE	WC	WS	WW	ITEM MEAN	ITEM S.D.
I- 1	.596	.593	.651	.595	.589	.693	.711	.676	.697	.664	.646	.046
I- 2	.665	.592	.698	.671	.701	.778	.769	.774	.778	.750	.719	.059
I- 3	.758	.688	.769	.759	.757	.773	.803	.792	.806	.790	.769	.032
I- 4	.607	.523	.633	.570	.617	.642	.703	.694	.697	.672	.636	.056
I- 5	.360	.320	.427	.266	.430	.466	.476	.476	.504	.432	.416	.073
I- 6	.399	.327	.408	.304	.374	.483	.476	.470	.482	.442	.416	.062
I- 7	.612	.516	.629	.557	.564	.688	.740	.719	.736	.695	.655	.072
I- 8	.506	.420	.557	.430	.523	.659	.600	.604	.622	.590	.551	.076
I- 9	.472	.344	.445	.392	.336	.517	.506	.530	.522	.511	.458	.071
I-10	.416	.329	.422	.329	.336	.483	.520	.512	.525	.463	.434	.075
I-11	.449	.338	.422	.354	.458	.580	.551	.535	.528	.497	.471	.078
I-12	.382	.276	.357	.291	.355	.455	.484	.481	.485	.442	.401	.076
I-13	.483	.328	.431	.342	.449	.659	.608	.596	.574	.559	.503	.108
I-14	.416	.353	.427	.392	.430	.619	.575	.557	.549	.522	.484	.086
I-15	.326	.255	.355	.241	.383	.551	.502	.514	.495	.476	.410	.107
I-16	.697	.670	.659	.696	.692	.778	.746	.741	.759	.720	.716	.037
I-17	.607	.491	.567	.468	.570	.608	.673	.640	.665	.619	.591	.065
I-18	.882	.819	.851	.886	.869	.886	.901	.873	.883	.874	.872	.022
I-19	.489	.468	.512	.443	.486	.631	.614	.596	.617	.573	.545	.065
I-20	.551	.458	.502	.354	.458	.551	.570	.544	.585	.522	.510	.066
I-21	.545	.515	.588	.481	.551	.653	.640	.666	.654	.609	.590	.061
I-22	.590	.511	.551	.456	.579	.676	.658	.647	.661	.609	.594	.068
I-23	.517	.405	.492	.291	.467	.642	.573	.599	.605	.547	.514	.100
I-24	.669	.539	.655	.557	.607	.739	.739	.728	.729	.701	.666	.071
I-25	.292	.249	.324	.165	.299	.358	.330	.373	.393	.355	.319	.067
I-26	.534	.400	.531	.430	.533	.608	.607	.610	.609	.601	.546	.073
I-27	.433	.319	.402	.253	.411	.540	.538	.537	.534	.495	.446	.096
I-28	.421	.340	.443	.228	.430	.523	.536	.543	.522	.508	.449	.096
I-29	.466	.350	.478	.342	.336	.489	.585	.568	.572	.525	.471	.092
I-30	.500	.406	.494	.367	.514	.625	.618	.595	.595	.558	.527	.084
GROUP												
MEAN	.522	.439	.522	.430	.507	.612	.613	.606	.613	.577		
S.D.	.1298	.1362	.1247	.1667	.1360	.1136	.1124	.1078	.1099	.1150		

TABLE D-3

ITEM P-VALUES BY GROUP

READING

ITEM	AI	AA	MA	PR	OL	OR	WE	WC	WS	WW	ITEM MEAN	ITEM S.D.
I- 1	.680	.688	.688	.684	.682	.801	.873	.853	.846	.849	.764	.082
I- 2	.551	.622	.663	.646	.589	.744	.792	.758	.763	.784	.691	.083
I- 3	.736	.768	.784	.785	.738	.915	.902	.885	.894	.872	.828	.068
I- 4	.579	.595	.539	.532	.551	.716	.739	.699	.702	.705	.636	.079
I- 5	.494	.592	.543	.608	.589	.750	.741	.720	.736	.733	.650	.091
I- 6	.640	.560	.610	.633	.626	.835	.812	.804	.809	.815	.715	.103
I- 7	.348	.257	.333	.291	.346	.523	.549	.536	.513	.538	.423	.112
I- 8	.376	.301	.363	.278	.393	.670	.631	.599	.593	.607	.481	.144
I- 9	.410	.381	.292	.291	.355	.523	.620	.577	.562	.538	.455	.117
I-10	.455	.415	.398	.430	.411	.619	.627	.597	.597	.633	.518	.098
I-11	.371	.303	.304	.329	.336	.545	.564	.505	.500	.530	.429	.103
I-12	.702	.674	.708	.671	.701	.824	.864	.834	.848	.837	.766	.077
I-13	.427	.338	.412	.354	.374	.574	.648	.648	.634	.669	.508	.131
I-14	.208	.175	.184	.266	.159	.330	.374	.314	.311	.353	.267	.076
I-15	.146	.137	.147	.215	.215	.182	.238	.227	.256	.243	.201	.042
I-16	.348	.265	.257	.253	.252	.432	.506	.528	.525	.554	.392	.123
I-17	.309	.240	.271	.291	.280	.403	.376	.343	.353	.377	.324	.051
I-18	.528	.353	.429	.304	.421	.676	.695	.682	.677	.684	.545	.148
I-19	.275	.179	.229	.165	.243	.369	.432	.392	.377	.401	.306	.094
I-20	.275	.165	.216	.152	.187	.398	.449	.442	.431	.458	.317	.123
GROUP												
MEAN	.443	.400	.418	.409	.422	.591	.622	.597	.596	.609		
S.D.	.1635	.1945	.1884	.1915	.1773	.1918	.1812	.1835	.1845	.1767		

TABLE D-4

ITEM P-VALUES BY GROUP

LETTER GROUPS

											ITEM	
ITEM	AI	AA	MA	PR	OL	OR	WE	WC	WS	WW	MEAN	S.D.
I- 1	.826	.802	.808	.848	.766	.920	.918	.926	.902	.919	.864	.057
I- 2	.466	.494	.502	.456	.533	.659	.708	.664	.649	.656	.579	.092
I- 3	.837	.752	.771	.722	.776	.903	.903	.885	.869	.877	.830	.065
I- 4	.910	.829	.849	.873	.879	.943	.957	.948	.954	.952	.909	.046
I- 5	.449	.441	.518	.494	.570	.744	.766	.734	.705	.744	.616	.127
I- 6	.837	.807	.837	.835	.822	.943	.934	.932	.931	.922	.880	.053
I- 7	.517	.536	.580	.633	.570	.807	.771	.741	.716	.752	.662	.102
I- 8	.556	.470	.527	.468	.570	.716	.754	.737	.657	.682	.614	.103
I- 9	.511	.457	.500	.481	.430	.727	.710	.700	.670	.697	.588	.115
I-10	.685	.719	.747	.722	.720	.869	.876	.866	.860	.850	.791	.075
I-11	.635	.600	.620	.582	.533	.761	.810	.798	.773	.812	.692	.103
I-12	.899	.827	.853	.848	.841	.955	.952	.947	.936	.933	.899	.049
I-13	.820	.799	.816	.835	.785	.955	.916	.913	.900	.908	.865	.057
I-14	.522	.486	.571	.468	.505	.778	.776	.739	.731	.744	.632	.125
I-15	.713	.575	.698	.658	.654	.881	.832	.831	.802	.832	.748	.096
I-16	.618	.557	.598	.468	.617	.858	.848	.819	.795	.817	.699	.135
I-17	.652	.536	.586	.582	.617	.818	.838	.821	.801	.806	.706	.115
I-18	.494	.506	.539	.405	.523	.716	.681	.678	.626	.633	.580	.096
I-19	.393	.342	.382	.266	.318	.580	.543	.555	.534	.546	.446	.111
I-20	.624	.510	.571	.367	.533	.847	.805	.803	.776	.785	.662	.155
I-21	.461	.327	.376	.278	.430	.693	.649	.625	.607	.612	.506	.141
I-22	.270	.180	.212	.127	.196	.375	.358	.354	.322	.324	.272	.083
I-23	.174	.093	.116	.076	.093	.239	.226	.214	.181	.231	.164	.061
I-24	.433	.255	.322	.203	.346	.568	.535	.539	.492	.497	.419	.123
I-25	.303	.200	.198	.101	.215	.426	.392	.416	.349	.348	.295	.105
GROUP												
MEAN	.584	.524	.564	.512	.554	.747	.738	.728	.702	.715		
S.D.	.1959	.2085	.2059	.2417	.2043	.1850	.1903	.1875	.1976	.1939		

TABLE D-5

ITEM P-VALUES BY GROUP

MATHEMATICS

ITEM	AI	AA	MA	PR	OL	OR	WE	WC	WS	WW	ITEM	
											MEAN	S.D.
I- 1	.702	.647	.641	.696	.673	.881	.868	.868	.850	.836	.766	.097
I- 2	.725	.679	.718	.684	.757	.824	.790	.761	.766	.753	.746	.043
I- 3	.730	.663	.733	.671	.729	.852	.872	.855	.863	.850	.782	.080
I- 4	.702	.653	.722	.671	.710	.830	.836	.848	.833	.855	.766	.077
I- 5	.416	.459	.508	.430	.514	.852	.765	.747	.755	.742	.619	.159
I- 6	.640	.560	.569	.595	.561	.710	.807	.830	.782	.782	.684	.105
I- 7	.669	.553	.563	.544	.589	.813	.808	.803	.768	.782	.689	.111
I- 8	.449	.364	.410	.418	.421	.750	.656	.635	.629	.623	.536	.129
I- 9	.607	.562	.616	.481	.598	.767	.782	.763	.751	.745	.667	.101
I-10	.466	.373	.431	.354	.421	.773	.645	.629	.635	.620	.535	.135
I-11	.494	.350	.420	.354	.467	.580	.637	.629	.611	.605	.515	.107
I-12	.461	.529	.561	.519	.523	.835	.740	.718	.713	.726	.633	.121
I-13	.461	.395	.467	.329	.514	.795	.705	.680	.659	.655	.566	.145
I-14	.567	.400	.527	.468	.589	.744	.723	.719	.685	.711	.613	.115
I-15	.416	.395	.355	.380	.327	.653	.602	.599	.573	.567	.487	.116
I-16	.309	.301	.394	.329	.402	.767	.617	.574	.609	.563	.486	.152
I-17	.427	.400	.437	.291	.477	.784	.650	.622	.629	.613	.533	.141
I-18	.388	.329	.343	.278	.299	.563	.587	.576	.542	.552	.446	.122
I-19	.393	.362	.406	.304	.505	.670	.579	.580	.551	.544	.489	.111
I-20	.382	.304	.347	.266	.355	.619	.646	.640	.613	.608	.478	.150
I-21	.275	.195	.290	.203	.355	.676	.545	.517	.503	.463	.402	.154
I-22	.270	.205	.263	.228	.336	.642	.534	.525	.486	.506	.399	.148
I-23	.253	.199	.218	.177	.215	.523	.447	.418	.413	.404	.327	.120
I-24	.247	.181	.243	.127	.234	.449	.471	.460	.439	.433	.328	.127
I-25	.264	.243	.286	.228	.271	.557	.470	.438	.421	.389	.357	.107
GROUP												
MEAN	.469	.412	.459	.401	.474	.716	.671	.657	.643	.637		
S.D.	.1562	.1532	.1497	.1663	.1514	.1153	.1232	.1292	.1302	.1354		

TABLE D-6

ITEM P-VALUES BY GROUP
MOSAIC COMPARISONS

ITEM	AI	AA	MA	PR	OL	OR	WE	WC	WS	WW	ITEM MEAN	ITEM S.D.
I- 1	.910	.838	.904	.873	.879	.943	.941	.943	.938	.948	.912	.036
I- 2	.904	.848	.900	.899	.907	.972	.943	.946	.947	.943	.921	.034
I- 3	.854	.822	.871	.823	.869	.898	.920	.932	.918	.922	.883	.039
I- 4	.848	.795	.851	.848	.822	.926	.927	.931	.916	.929	.879	.049
I- 5	.910	.834	.890	.873	.897	.943	.944	.953	.944	.952	.914	.038
I- 6	.910	.828	.896	.861	.841	.960	.944	.953	.941	.945	.908	.047
I- 7	.904	.830	.900	.899	.822	.972	.951	.959	.948	.956	.914	.051
I- 8	.882	.767	.841	.823	.850	.932	.927	.944	.928	.927	.882	.056
I- 9	.848	.713	.814	.734	.794	.943	.908	.917	.895	.907	.847	.076
I-10	.826	.637	.769	.671	.813	.903	.864	.888	.866	.868	.811	.087
I-11	.781	.580	.761	.557	.720	.881	.860	.887	.855	.859	.774	.115
I-12	.736	.514	.682	.468	.645	.886	.817	.846	.810	.811	.722	.135
I-13	.719	.483	.647	.418	.579	.858	.781	.814	.773	.791	.686	.142
I-14	.640	.403	.557	.392	.486	.818	.706	.747	.703	.717	.617	.141
I-15	.522	.307	.473	.316	.421	.744	.620	.660	.618	.653	.534	.143
I-16	.427	.246	.380	.253	.346	.670	.512	.555	.520	.538	.445	.131
I-17	.360	.207	.337	.190	.271	.585	.437	.470	.448	.467	.377	.121
I-18	.303	.143	.220	.063	.196	.489	.308	.359	.324	.346	.275	.116
I-19	.213	.122	.157	.051	.159	.432	.237	.265	.263	.272	.217	.099
I-20	.180	.095	.131	.051	.112	.341	.179	.204	.210	.209	.171	.077
GROUP												
MEAN	.684	.551	.649	.553	.621	.805	.736	.759	.738	.748		
S.D.	.2476	.2718	.2642	.3076	.2699	.1905	.2541	.2442	.2444	.2415		

APPENDIX E

Item Response Patterns and Statistics

TABLE E-1
ITEM RESPONSE PATTERNS AND STATISTICS
ITEM V - 1

GROUP		RESPONSE									
		NR	1	2	3	4*	5	N	P	MS	MT
AI	(N)	1	10	12	18	133	4	178	0.7472	5.62	70.14
	(%)	0.01	0.06	0.07	0.10	0.75	0.02				
AA	(N)	19	83	130	156	1353	154	1895	0.7140	4.82	60.38
	(%)	0.01	0.04	0.07	0.08	0.72	0.08				
MA	(N)	4	15	39	38	351	44	491	0.7149	5.16	67.72
	(%)	0.01	0.03	0.08	0.08	0.72	0.09				
PR	(N)	1	3	2	5	65	3	79	0.8228	5.13	60.10
	(%)	0.01	0.04	0.03	0.06	0.83	0.04				
CL	(N)	2	2	4	9	81	9	107	0.7570	6.15	67.92
	(%)	0.02	0.02	0.04	0.09	0.77	0.09				
GR	(N)	0	4	8	5	155	4	176	0.8807	7.72	90.59
	(%)	0.0	0.02	0.05	0.03	0.88	0.02				
WE	(N)	11	34	49	77	2584	43	2798	0.9235	8.74	89.53
	(%)	0.00	0.01	0.02	0.03	0.93	0.02				
WC	(N)	14	45	82	98	3282	68	3589	0.9145	7.99	87.91
	(%)	0.00	0.01	0.02	0.03	0.92	0.02				
WS	(N)	15	38	87	121	3217	79	3557	0.9044	7.62	86.32
	(%)	0.00	0.01	0.02	0.03	0.91	0.02				
WW	(N)	11	25	47	43	1792	40	1958	0.9152	8.38	86.65
	(%)	0.01	0.01	0.02	0.02	0.92	0.02				
TOT	(N)	78	259	460	570	13013	448	14828	0.8776	7.54	83.01
	(%)	0.01	0.02	0.03	0.04	0.88	0.03				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONCING)

TABLE E-2
ITEM RESPONSE PATTERNS AND STATISTICS
ITEM V - 2

GROUP		RESPONSE									
		NR	1*	2	3	4	5	N	P	MS	MT
AI	(N)	13	56	46	35	15	13	178	0.3146	5.62	70.14
	(%)	0.07	0.34	0.28	0.21	0.09	0.08				
AA	(N)	137	624	540	340	125	126	1895	0.3293	4.82	60.38
	(%)	0.07	0.35	0.31	0.19	0.07	0.07				
MA	(N)	42	171	120	93	29	35	491	0.3483	5.16	67.72
	(%)	0.09	0.38	0.27	0.21	0.06	0.08				
PR	(N)	9	21	23	13	7	6	79	0.2658	5.13	60.10
	(%)	0.11	0.30	0.33	0.19	0.10	0.09				
CL	(N)	8	60	19	13	3	4	107	0.5607	6.15	67.92
	(%)	0.07	0.61	0.19	0.13	0.03	0.04				
OR	(N)	22	99	26	15	7	7	176	0.5625	7.72	90.59
	(%)	0.13	0.64	0.17	0.10	0.05	0.05				
WE	(N)	190	1651	524	215	67	150	2798	0.5901	8.74	89.53
	(%)	0.07	0.63	0.20	0.08	0.03	0.06				
WC	(N)	255	1803	753	400	142	234	3589	0.5024	7.99	87.91
	(%)	0.07	0.54	0.23	0.12	0.04	0.07				
WS	(N)	280	1795	730	408	106	238	3557	0.5046	7.62	86.32
	(%)	0.08	0.55	0.22	0.12	0.03	0.07				
WW	(N)	135	1215	285	180	51	92	1958	0.6205	8.38	86.65
	(%)	0.07	0.67	0.16	0.10	0.03	0.05				
TOT	(N)	1091	7495	3066	1712	552	905	14828	0.5055	7.54	83.01
	(%)	0.07	0.55	0.22	0.12	0.04	0.07				

% NR = NR/(TOTAL N)

% RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-3
ITEM RESPONSE PATTERNS AND STATISTICS
ITEM V - 3

GROUP		RESPONSE NR	1	2	3*	4	5	N	P	MS	MT
AI	(N)	6	16	39	98	12	7	178	0.5506	5.62	70.14
	(%)	0.03	0.09	0.23	0.57	0.07	0.04				
AA	(N)	106	266	256	902	184	178	1895	0.4760	4.82	60.38
	(%)	0.06	0.15	0.14	0.50	0.10	0.10				
MA	(N)	24	38	81	270	35	42	491	0.5499	5.16	67.72
	(%)	0.05	0.08	0.17	0.58	0.07	0.09				
PR	(N)	3	11	11	47	5	2	79	0.5949	5.13	60.10
	(%)	0.04	0.14	0.14	0.62	0.07	0.03				
CL	(N)	8	12	13	62	6	6	107	0.5794	6.15	67.92
	(%)	0.07	0.12	0.13	0.63	0.06	0.06				
CR	(N)	9	10	8	139	6	4	176	0.7898	7.72	90.59
	(%)	0.05	0.06	0.05	0.83	0.04	0.02				
WE	(N)	63	162	96	2338	96	42	2798	0.8356	8.74	89.53
	(%)	0.02	0.06	0.04	0.85	0.04	0.02				
WC	(N)	105	191	207	2869	149	66	3589	0.7994	7.99	87.91
	(%)	0.03	0.05	0.06	0.82	0.04	0.02				
WS	(N)	121	239	243	2700	156	98	3557	0.7591	7.62	86.32
	(%)	0.03	0.07	0.07	0.79	0.05	0.03				
WW	(N)	66	119	89	1586	64	34	1958	0.8100	8.38	86.65
	(%)	0.03	0.06	0.05	0.84	0.03	0.02				
TOT	(N)	511	1064	1043	11011	713	479	14828	0.7426	7.54	83.01
	(%)	0.03	0.07	0.07	0.77	0.05	0.03				

% NR = NR/(TOTAL N)　　% RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-4
ITEM RESPONSE PATTERNS AND STATISTICS
ITEM V - 4

GROUP		RESPONSE NR	1	2	3	4*	5	N	P	MS	MT
AI	(N)	8	39	27	19	69	16	178	0.3876	5.62	70.14
	(%)	0.04	0.23	0.16	0.11	0.41	0.09				
AA	(N)	225	321	243	269	651	183	1895	0.3435	4.82	60.38
	(%)	0.12	0.19	0.15	0.16	0.39	0.11				
MA	(N)	45	72	52	40	206	75	491	0.4196	5.16	67.72
	(%)	0.09	0.16	0.12	0.09	0.46	0.17				
PR	(N)	3	11	5	7	46	7	79	0.5823	5.13	60.10
	(%)	0.04	0.14	0.07	0.09	0.61	0.09				
CL	(N)	9	8	6	11	66	7	107	0.6168	6.15	67.92
	(%)	0.08	0.08	0.06	0.11	0.67	0.07				
CR	(N)	17	9	13	7	118	12	176	0.6705	7.72	90.59
	(%)	0.10	0.06	0.08	0.04	0.74	0.08				
WE	(N)	172	158	124	85	2120	138	2798	0.7577	8.74	89.53
	(%)	0.06	0.06	0.05	0.03	0.81	0.05				
WC	(N)	260	305	266	196	2334	226	3589	0.6503	7.99	87.91
	(%)	0.07	0.09	0.08	0.06	0.70	0.07				
WS	(N)	353	394	334	227	2001	248	3557	0.5626	7.62	86.32
	(%)	0.10	0.12	0.10	0.07	0.62	0.08				
WW	(N)	123	182	111	73	1374	95	1958	0.7017	8.38	86.65
	(%)	0.06	0.10	0.06	0.04	0.75	0.05				
TOT	(N)	1215	1499	1181	934	8985	1007	14828	0.6059	7.54	83.01
	(%)	0.08	0.11	0.09	0.07	0.66	0.07				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-5

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM V - 5

GROUP		NR	1	2*	3	4	5	N	P	MS	MT
		RESPONSE									
AI	(N)	1	10	120	13	17	17	178	0.6742	5.62	70.14
	(%)	0.01	0.06	0.68	0.07	0.10	0.10				
AA	(N)	43	135	1239	161	155	159	1895	0.6538	4.82	60.38
	(%)	0.02	0.07	0.67	0.09	0.08	0.09				
MA	(N)	22	29	283	38	59	59	491	0.5764	5.16	67.72
	(%)	0.04	0.06	0.60	0.08	0.13	0.13				
PR	(N)	2	6	50	12	2	7	79	0.6329	5.13	60.10
	(%)	0.03	0.08	0.65	0.16	0.03	0.09				
CL	(N)	7	8	63	9	11	9	107	0.5888	6.15	67.92
	(%)	0.07	0.08	0.63	0.09	0.11	0.09				
CR	(N)	5	6	139	7	12	7	176	0.7898	7.72	90.59
	(%)	0.03	0.04	0.81	0.04	0.07	0.04				
WE	(N)	26	110	2429	54	88	90	2798	0.8681	8.74	89.53
	(%)	0.01	0.04	0.88	0.02	0.03	0.03				
WC	(N)	29	113	3102	101	126	116	3589	0.8643	7.99	87.91
	(%)	0.01	0.03	0.87	0.03	0.04	0.03				
WS	(N)	26	127	3097	89	107	111	3557	0.8707	7.62	86.32
	(%)	0.01	0.04	0.88	0.03	0.03	0.03				
WW	(N)	21	56	1708	41	71	61	1958	0.8723	8.38	86.65
	(%)	0.01	0.03	0.88	0.02	0.04	0.03				
TOT	(N)	182	600	12230	525	648	636	14828	0.8248	7.54	83.01
	(%)	0.01	0.04	0.84	0.04	0.04	0.04				

% NR = NR/(TOTAL N)　　% RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-6
ITEM RESPONSE PATTERNS AND STATISTICS
ITEM V - 6

		RESPONSE									
GROUP		NR	1	2	3	4	5*	N	P	MS	MT
AI	(N)	4	3	65	12	10	84	178	0.4719	5.62	70.14
	(%)	0.02	0.02	0.37	0.07	0.06	0.48				
AA	(N)	92	71	708	115	134	772	1895	0.4074	4.82	60.38
	(%)	0.05	0.04	0.39	0.06	0.07	0.43				
MA	(N)	27	18	156	37	34	218	491	0.4440	5.16	67.72
	(%)	0.05	0.04	0.34	0.08	0.07	0.47				
PR	(N)	2	1	25	6	8	37	79	0.4684	5.13	60.10
	(%)	0.03	0.01	0.32	0.08	0.10	0.48				
OL	(N)	9	5	29	3	7	54	107	0.5047	6.15	67.92
	(%)	0.08	0.05	0.30	0.03	0.07	0.55				
CR	(N)	10	3	50	6	15	92	176	0.5227	7.72	90.59
	(%)	0.06	0.02	0.30	0.04	0.09	0.55				
WE	(N)	85	92	793	55	96	1676	2798	0.5990	8.74	89.53
	(%)	0.03	0.03	0.29	0.02	0.04	0.62				
WC	(N)	89	112	1095	82	125	2084	3589	0.5807	7.99	87.91
	(%)	0.02	0.03	0.31	0.02	0.04	0.60				
WS	(N)	76	77	1156	72	122	2014	3557	0.5662	7.62	86.32
	(%)	0.02	0.02	0.34	0.02	0.04	0.58				
WW	(N)	57	81	599	34	71	1116	1958	0.5700	8.38	86.65
	(%)	0.03	0.04	0.32	0.02	0.04	0.59				
TOT	(N)	451	463	4716	422	622	8147	14828	0.5494	7.54	83.01
	(%)	0.03	0.03	0.33	0.03	0.04	0.57				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-7

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM V - 7

GROUP		NR	1*	2	3	4	5	N	P	MS	MT
		RESPONSE									
AI	(N)	13	63	16	25	37	24	178	0.3539	5.62	70.14
	(%)	0.07	0.38	0.10	0.15	0.22	0.15				
AA	(N)	178	595	209	284	362	264	1895	0.3140	4.82	60.38
	(%)	0.09	0.35	0.12	0.17	0.21	0.15				
MA	(N)	53	149	55	83	92	58	491	0.3035	5.16	67.72
	(%)	0.11	0.34	0.13	0.19	0.21	0.13				
PR	(N)	5	21	12	11	15	15	79	0.2658	5.13	60.10
	(%)	0.06	0.28	0.16	0.15	0.20	0.20				
CL	(N)	12	35	7	18	22	13	107	0.3271	6.15	67.92
	(%)	0.11	0.37	0.07	0.19	0.23	0.14				
CR	(N)	22	101	8	10	18	17	176	0.5739	7.72	90.59
	(%)	0.13	0.66	0.05	0.06	0.12	0.11				
WE	(N)	146	1862	140	221	254	174	2798	0.6655	8.74	89.53
	(%)	0.05	0.70	0.05	0.08	0.10	0.07				
WC	(N)	233	2123	221	355	398	257	3589	0.5915	7.99	87.91
	(%)	0.06	0.63	0.07	0.11	0.12	0.08				
WS	(N)	245	1929	227	403	456	297	3557	0.5423	7.62	86.32
	(%)	0.07	0.58	0.07	0.12	0.14	0.09				
WW	(N)	135	1250	123	147	188	115	1958	0.6384	8.38	86.65
	(%)	0.07	0.69	0.07	0.08	0.10	0.06				
TOT	(N)	1042	8128	1018	1557	1842	1234	14828	0.5482	7.54	83.01
	(%)	0.07	0.59	0.07	0.11	0.13	0.09				

% NR = NR/(TOTAL N) % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-8

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM V - 8

		RESPONSE									
GROUP		NR	1	2	3*	4	5	N	P	MS	MT
AI	(N)	11	45	41	47	16	18	178	0.2640	5.62	70.14
	(%)	0.06	0.27	0.25	0.28	0.10	0.11				
AA	(N)	196	425	443	357	219	252	1895	0.1884	4.82	60.38
	(%)	0.10	0.25	0.26	0.21	0.13	0.15				
MA	(N)	41	120	105	97	65	62	491	0.1976	5.16	67.72
	(%)	0.08	0.27	0.23	0.22	0.14	0.14				
PR	(N)	12	19	19	11	8	10	79	0.1792	5.13	60.10
	(%)	0.15	0.28	0.28	0.16	0.12	0.15				
OL	(N)	12	17	24	26	17	11	107	0.2430	6.15	67.92
	(%)	0.11	0.18	0.25	0.27	0.18	0.12				
CR	(N)	13	41	31	69	14	8	176	0.3920	7.72	90.59
	(%)	0.07	0.25	0.19	0.42	0.09	0.05				
WE	(N)	153	463	620	1176	241	144	2798	0.4203	8.74	89.53
	(%)	0.05	0.18	0.23	0.44	0.09	0.05				
WC	(N)	197	583	847	1447	336	177	3589	0.4032	7.99	87.91
	(%)	0.05	0.17	0.25	0.43	0.10	0.05				
WS	(N)	242	683	854	1281	294	203	3557	0.3601	7.62	86.32
	(%)	0.07	0.21	0.26	0.39	0.09	0.06				
WW	(N)	147	337	441	753	185	95	1958	0.3846	8.38	86.65
	(%)	0.08	0.19	0.24	0.42	0.10	0.05				
TOT	(N)	1024	2733	3425	5264	1395	980	14828	0.3550	7.54	83.01
	(%)	0.07	0.20	0.25	0.38	0.10	0.07				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-9

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM V - 9

		RESPONSE									
GROUP		NR	1*	2	3	4	5	N	P	MS	MT
AI	(N)	20	58	12	19	62	7	178	0.3258	5.62	70.14
	(%)	0.11	0.37	0.08	0.12	0.39	0.04				
AA	(N)	257	462	116	236	709	112	1895	0.2438	4.82	60.38
	(%)	0.14	0.28	0.07	0.14	0.43	0.07				
MA	(N)	59	151	23	47	182	26	491	0.3075	5.16	67.72
	(%)	0.12	0.35	0.05	0.11	0.42	0.06				
PR	(N)	13	17	3	9	33	4	79	0.2152	5.13	60.10
	(%)	0.16	0.26	0.05	0.14	0.50	0.06				
OL	(N)	15	39	4	16	29	4	107	0.3645	6.15	67.92
	(%)	0.14	0.42	0.04	0.17	0.32	0.04				
OR	(N)	37	71	8	10	44	6	176	0.4034	7.72	90.59
	(%)	0.21	0.51	0.06	0.07	0.32	0.04				
WE	(N)	350	1426	104	157	699	61	2798	0.5096	8.74	89.53
	(%)	0.13	0.58	0.04	0.06	0.29	0.02				
WC	(N)	372	1714	174	163	1053	111	3589	0.4776	7.99	87.91
	(%)	0.10	0.53	0.05	0.05	0.33	0.03				
WS	(N)	361	1569	208	191	1106	122	3557	0.4411	7.62	86.32
	(%)	0.10	0.49	0.07	0.06	0.35	0.04				
WW	(N)	230	1037	82	90	461	58	1958	0.5296	8.38	86.65
	(%)	0.12	0.60	0.05	0.05	0.27	0.03				
TOT	(N)	1714	6544	734	938	4378	513	14828	0.4413	7.54	83.01
	(%)	0.12	0.50	0.06	0.07	0.33	0.04				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-10
ITEM RESPONSE PATTERNS AND STATISTICS
ITEM V -10

GROUP		NR	1*	2	3	4	5	N	P	MS	MT
AI	(N)	20	59	36	12	18	33	178	0.3315	5.62	70.14
	(%)	0.11	0.37	0.23	0.08	0.11	0.21				
AA	(N)	362	466	351	149	188	376	1895	0.2459	4.82	60.38
	(%)	0.19	0.30	0.23	0.10	0.12	0.25				
MA	(N)	95	114	94	45	47	95	491	0.2322	5.16	67.72
	(%)	0.19	0.29	0.24	0.11	0.12	0.24				
PR	(N)	17	21	12	4	9	16	79	0.2658	5.13	60.10
	(%)	0.22	0.34	0.19	0.06	0.15	0.26				
OL	(N)	30	28	18	9	8	14	107	0.2617	6.15	67.92
	(%)	0.28	0.36	0.23	0.12	0.10	0.18				
OR	(N)	54	77	13	10	7	15	176	0.4375	7.72	90.59
	(%)	0.31	0.63	0.11	0.08	0.06	0.12				
WE	(N)	514	1438	391	115	154	185	2798	0.5139	8.74	89.53
	(%)	0.18	0.63	0.17	0.05	0.07	0.08				
WC	(N)	604	1742	512	194	195	347	3589	0.4854	7.99	87.91
	(%)	0.17	0.58	0.17	0.06	0.07	0.11				
WS	(N)	607	1664	491	228	200	367	3557	0.4678	7.62	86.32
	(%)	0.17	0.56	0.17	0.08	0.07	0.12				
WW	(N)	334	1016	261	100	91	156	1958	0.5189	8.38	86.65
	(%)	0.17	0.63	0.16	0.06	0.06	0.10				
TOT	(N)	2637	6625	2179	866	917	1597	14828	0.4468	7.54	83.01
	(%)	0.18	0.54	0.18	0.07	0.08	0.13				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-11

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM V -11

GROUP		NR	1	2	3*	4	5	N	P	MS	MT
		RESPONSE									
AI	(N)	22	46	14	40	36	20	178	0.2247	5.62	70.14
	(%)	0.12	0.29	0.09	0.26	0.23	0.13				
AA	(N)	426	527	160	306	301	172	1895	0.1615	4.82	60.38
	(%)	0.22	0.36	0.11	0.21	0.20	0.12				
MA	(N)	95	133	39	90	79	54	491	0.1833	5.16	67.72
	(%)	0.19	0.34	0.10	0.23	0.20	0.14				
PR	(N)	26	27	7	6	4	9	79	0.0759	5.13	60.10
	(%)	0.33	0.51	0.13	0.11	0.08	0.17				
CL	(N)	31	26	11	19	11	9	107	0.1776	6.15	67.92
	(%)	0.29	0.34	0.14	0.25	0.14	0.12				
OR	(N)	38	39	6	66	16	11	176	0.3750	7.72	90.59
	(%)	0.22	0.28	0.04	0.48	0.12	0.08				
WE	(N)	351	724	96	1218	235	173	2798	0.4353	8.74	89.53
	(%)	0.13	0.30	0.04	0.50	0.10	0.07				
WC	(N)	393	952	133	1356	508	245	3589	0.3778	7.99	87.91
	(%)	0.11	0.30	0.04	0.42	0.16	0.08				
WS	(N)	394	869	160	1114	780	240	3557	0.3132	7.62	86.32
	(%)	0.11	0.27	0.05	0.35	0.25	0.08				
WW	(N)	237	503	84	776	221	137	1958	0.3963	8.38	86.65
	(%)	0.12	0.29	0.05	0.45	0.13	0.08				
TOT	(N)	2013	3846	710	4991	2191	1070	14828	0.3366	7.54	83.01
	(%)	0.14	0.30	0.06	0.39	0.17	0.08				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-12
ITEM RESPONSE PATTERNS AND STATISTICS
ITEM V -12

GROUP		NR	1	2*	3	4	5	N	P	MS	MT
		RESPONSE									
AI	(N)	25	23	28	51	23	28	178	0.1573	5.62	70.14
	(%)	0.14	0.15	0.18	0.33	0.15	0.18				
AA	(N)	452	280	293	477	203	187	1895	0.1546	4.82	60.38
	(%)	0.24	0.19	0.20	0.33	0.14	0.13				
MA	(N)	90	91	72	123	50	64	491	0.1466	5.16	67.72
	(%)	0.18	0.23	0.18	0.31	0.12	0.16				
PR	(N)	24	13	11	14	9	8	79	0.1392	5.13	60.10
	(%)	0.30	0.24	0.20	0.25	0.16	0.15				
OL	(N)	22	19	15	25	14	12	107	0.1402	6.15	67.92
	(%)	0.21	0.22	0.18	0.29	0.16	0.14				
OR	(N)	37	21	55	44	11	8	176	0.3125	7.72	90.59
	(%)	0.21	0.15	0.40	0.32	0.08	0.06				
WE	(N)	380	301	1067	749	112	188	2798	0.3813	8.74	89.53
	(%)	0.14	0.12	0.44	0.31	0.05	0.08				
WC	(N)	499	383	1165	1042	185	314	3589	0.3246	7.99	87.91
	(%)	0.14	0.12	0.38	0.34	0.06	0.10				
WS	(N)	439	450	1072	1059	173	314	3557	0.3014	7.62	86.32
	(%)	0.14	0.15	0.35	0.35	0.06	0.10				
WW	(N)	306	181	620	609	93	149	1958	0.3166	8.38	86.65
	(%)	0.16	0.11	0.38	0.37	0.06	0.09				
TOT	(N)	2323	1762	4398	4193	673	1272	14828	0.2966	7.54	83.01
	(%)	0.16	0.14	0.35	0.34	0.07	0.10				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-13
ITEM RESPONSE PATTERNS AND STATISTICS
ITEM V -13

		RESPONSE									
GROUP		NR	1	2	3	4*	5	N	P	MS	MT
AI	(N)	24	19	15	53	51	16	178	0.2865	5.62	70.14
	(%)	0.13	0.12	0.10	0.34	0.33	0.10				
AA	(N)	478	163	235	474	408	134	1895	0.2153	4.82	60.38
	(%)	0.25	0.12	0.17	0.33	0.29	0.09				
MA	(N)	87	25	65	162	122	29	491	0.2485	5.16	67.72
	(%)	0.18	0.06	0.16	0.40	0.30	0.07				
PR	(N)	24	3	6	20	18	8	79	0.2278	5.13	60.10
	(%)	0.30	0.05	0.11	0.36	0.33	0.15				
OL	(N)	23	5	9	23	38	9	107	0.3551	6.15	67.92
	(%)	0.21	0.06	0.11	0.27	0.45	0.11				
OR	(N)	30	9	15	56	60	6	176	0.3409	7.72	90.59
	(%)	0.17	0.06	0.10	0.38	0.41	0.04				
WE	(N)	320	191	195	969	980	142	2798	0.3503	8.74	89.53
	(%)	0.11	0.08	0.08	0.39	0.40	0.06				
WC	(N)	440	210	338	1246	1136	217	3589	0.3165	7.99	87.91
	(%)	0.12	0.07	0.11	0.40	0.36	0.07				
WS	(N)	389	253	345	1214	1147	209	3557	0.3225	7.62	86.32
	(%)	0.11	0.08	0.11	0.38	0.36	0.07				
WW	(N)	245	102	165	669	662	115	1958	0.3381	8.38	86.65
	(%)	0.13	0.06	0.10	0.39	0.39	0.07				
TOT	(N)	2060	980	1388	4886	4622	885	14828	0.3117	7.54	83.01
	(%)	0.14	0.08	0.11	0.38	0.36	0.07				

% NR = NR/(TOTAL N)　　　% RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-14

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM V -14

		RESPONSE									
GROUP		NR	1	2	3	4*	5	N	P	MS	MT
AI	(N)	38	15	37	22	48	18	178	0.2697	5.62	70.14
	(%)	0.21	0.11	0.26	0.16	0.34	0.13				
AA	(N)	685	144	341	166	391	165	1895	0.2063	4.82	60.38
	(%)	0.36	0.12	0.28	0.14	0.32	0.14				
MA	(N)	139	33	94	50	126	48	491	0.2566	5.16	67.72
	(%)	0.28	0.09	0.27	0.14	0.36	0.14				
PR	(N)	34	7	9	9	15	5	79	0.1899	5.13	60.10
	(%)	0.43	0.16	0.20	0.20	0.33	0.11				
OL	(N)	31	9	12	10	37	8	107	0.3458	6.15	67.92
	(%)	0.29	0.12	0.16	0.13	0.49	0.11				
OR	(N)	69	9	14	16	48	20	176	0.2727	7.72	90.59
	(%)	0.39	0.08	0.13	0.15	0.45	0.19				
WE	(N)	713	128	393	212	1057	294	2798	0.3778	8.74	89.53
	(%)	0.25	0.06	0.19	0.10	0.51	0.14				
WC	(N)	965	185	594	326	1073	444	3589	0.2990	7.99	87.91
	(%)	0.27	0.07	0.23	0.12	0.41	0.17				
WS	(N)	901	162	571	321	1118	484	3557	0.3143	7.62	86.32
	(%)	0.25	0.06	0.21	0.12	0.42	0.18				
WW	(N)	547	103	303	162	612	231	1958	0.3126	8.38	86.65
	(%)	0.28	0.07	0.21	0.11	0.43	0.16				
TOT	(N)	4122	795	2368	1294	4525	1717	14828	0.3052	7.54	83.01
	(%)	0.28	0.07	0.22	0.12	0.42	0.16				

% NR = NR/(TOTAL N)

% RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-15
ITEM RESPONSE PATTERNS AND STATISTICS
ITEM V -15

GROUP		RESPONSE									
		NR	1	2	3	4*	5	N	P	MS	MT
AI	(N)	39	35	23	16	47	18	178	0.2640	5.62	70.14
	(%)	0.22	0.25	0.17	0.12	0.34	0.13				
AA	(N)	622	328	197	165	299	281	1895	0.1578	4.82	60.38
	(%)	0.33	0.26	0.15	0.13	0.23	0.22				
MA	(N)	128	95	67	45	106	49	491	0.2159	5.16	67.72
	(%)	0.26	0.26	0.18	0.12	0.29	0.13				
PR	(N)	38	7	5	5	19	5	79	0.2405	5.13	60.10
	(%)	0.48	0.17	0.12	0.12	0.46	0.12				
CL	(N)	30	10	17	10	35	5	107	0.3271	6.15	67.92
	(%)	0.28	0.13	0.22	0.13	0.45	0.06				
CR	(N)	28	28	23	14	69	14	176	0.3920	7.72	90.59
	(%)	0.16	0.19	0.16	0.09	0.47	0.09				
WE	(N)	331	466	343	136	1416	105	2798	0.5061	8.74	89.53
	(%)	0.12	0.19	0.14	0.06	0.57	0.04				
WC	(N)	544	675	501	222	1438	207	3589	0.4007	7.99	87.91
	(%)	0.15	0.22	0.16	0.07	0.47	0.07				
WS	(N)	556	697	446	197	1404	257	3557	0.3947	7.62	86.32
	(%)	0.16	0.23	0.15	0.07	0.47	0.09				
WW	(N)	313	344	238	109	891	63	1958	0.4551	8.38	86.65
	(%)	0.16	0.21	0.14	0.07	0.54	0.04				
TOT	(N)	2629	2685	1860	919	5724	1004	14828	0.3860	7.54	83.01
	(%)	0.18	0.22	0.15	0.08	0.47	0.08				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-16

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM PN - 1

GROUP		NR	1	2	3	4	5*	N	P	MS	MT
		RESPONSE									
AI	(N)	27	15	7	6	5	106	178	0.5955	15.66	70.14
	(%)	0.15	0.10	0.05	0.04	0.03	0.70				
AA	(N)	243	214	51	59	71	1122	1895	0.5921	13.17	60.38
	(%)	0.13	0.13	0.03	0.04	0.04	0.68				
MA	(N)	61	54	7	6	11	319	491	0.6497	15.68	67.72
	(%)	0.12	0.13	0.02	0.01	0.03	0.74				
PR	(N)	16	8	2	1	0	47	79	0.5949	12.91	60.10
	(%)	0.20	0.13	0.03	0.02	0.0	0.75				
CL	(N)	20	9	2	3	4	63	107	0.5888	15.21	67.92
	(%)	0.19	0.10	0.02	0.03	0.05	0.72				
CR	(N)	25	11	2	5	3	122	176	0.6932	18.35	90.59
	(%)	0.14	0.07	0.01	0.03	0.02	0.81				
WE	(N)	369	188	41	52	52	1988	2798	0.7105	18.40	89.53
	(%)	0.13	0.08	0.02	0.02	0.02	0.82				
WC	(N)	567	240	57	64	80	2424	3589	0.6754	18.19	87.91
	(%)	0.16	0.08	0.02	0.02	0.03	0.80				
WS	(N)	476	230	49	59	70	2480	3557	0.6972	18.38	86.32
	(%)	0.13	0.07	0.02	0.02	0.02	0.80				
WW	(N)	331	137	27	40	42	1300	1958	0.6639	17.32	86.65
	(%)	0.17	0.08	0.02	0.02	0.03	0.80				
TOT	(N)	2135	1106	245	295	338	9971	14828	0.6724	17.36	83.01
	(%)	0.14	0.09	0.02	0.02	0.03	0.79				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

ITEM RESPONSE PATTERNS AND STATISTICS
ITEM PN - 1 CONTINUED

GROUP		RESPONSE 6	7	8	9	10	N	P	MS	MT
AI	(N)	0	0	0	1	11	178	0.5955	15.66	70.14
	(%)	0.0	0.0	0.0	0.01	0.07				
AA	(N)	18	7	8	24	75	1895	0.5921	13.17	60.38
	(%)	0.01	0.00	0.00	0.01	0.05				
MA	(N)	7	1	1	8	15	491	0.6497	15.68	67.72
	(%)	0.02	0.00	0.00	0.02	0.03				
PR	(N)	0	1	0	3	1	79	0.5949	12.91	60.10
	(%)	0.0	0.02	0.0	0.05	0.02				
OL	(N)	1	2	1	1	1	107	0.5888	15.21	67.92
	(%)	0.01	0.02	0.01	0.01	0.01				
CR	(N)	1	0	0	1	6	176	0.6932	18.35	90.59
	(%)	0.01	0.0	0.0	0.01	0.04				
WE	(N)	17	7	3	25	55	2798	0.7105	18.40	89.53
	(%)	0.01	0.00	0.00	0.01	0.02				
WC	(N)	22	9	15	26	83	3589	0.6754	18.19	87.91
	(%)	0.01	0.00	0.00	0.01	0.03				
WS	(N)	29	3	11	39	111	3557	0.6972	18.38	86.32
	(%)	0.01	0.00	0.00	0.01	0.04				
WW	(N)	12	3	5	14	47	1958	0.6639	17.32	86.65
	(%)	0.01	0.00	0.00	0.01	0.03				
TOT	(N)	107	33	44	142	405	14828	0.6724	17.36	83.01
	(%)	0.01	0.00	0.00	0.01	0.03				

% NR = NR/(TOTAL N) % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-17

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM PN - 2

GROUP		RESPONSE									
		NR	1	2	3	4	5	N	P	MS	MT
AI	(N)	16	5	9	1	14	3	178	0.6854	15.66	70.14
	(%)	0.09	0.03	0.06	0.01	0.09	0.02				
AA	(N)	267	91	69	33	186	42	1895	0.5916	13.17	60.38
	(%)	0.14	0.06	0.04	0.02	0.11	0.03				
MA	(N)	64	10	11	7	32	6	491	0.6864	15.68	67.72
	(%)	0.13	0.02	0.03	0.02	0.07	0.01				
PR	(N)	12	1	1	1	6	1	79	0.6709	12.91	60.10
	(%)	0.15	0.01	0.01	0.01	0.09	0.01				
CL	(N)	16	4	2	2	5	1	107	0.7009	15.21	67.92
	(%)	0.15	0.04	0.02	0.02	0.05	0.01				
OR	(N)	21	0	3	1	5	4	176	0.7784	18.35	90.59
	(%)	0.12	0.0	0.02	0.01	0.03	0.03				
WE	(N)	300	45	33	21	123	23	2798	0.7691	18.40	89.53
	(%)	0.11	0.02	0.01	0.01	0.05	0.01				
WC	(N)	334	58	65	21	182	32	3589	0.7738	18.19	87.91
	(%)	0.09	0.02	0.02	0.01	0.06	0.01				
WS	(N)	298	54	61	19	192	32	3557	0.7776	18.38	86.32
	(%)	0.08	0.02	0.02	0.01	0.06	0.01				
WW	(N)	237	33	33	10	95	18	1958	0.7503	17.32	86.65
	(%)	0.12	0.02	0.02	0.01	0.06	0.01				
TOT	(N)	1565	301	287	116	840	162	14828	0.7424	17.36	83.01
	(%)	0.11	0.02	0.02	0.01	0.06	0.01				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

ITEM RESPONSE PATTERNS AND STATISTICS
ITEM PN - 2 CONTINUED

GROUP		RESPONSE 6	7	8	9	10*	N	P	MS	MT
AI	(N)	5	1	1	1	122	178	0.6854	15.66	70.14
	(%)	0.03	0.01	0.01	0.01	0.75				
AA	(N)	35	10	22	16	1121	1895	0.5916	13.17	60.38
	(%)	0.02	0.01	0.01	0.01	0.69				
MA	(N)	15	2	3	3	337	491	0.6864	15.68	67.72
	(%)	0.04	0.00	0.01	0.01	0.79				
PR	(N)	2	1	1	0	53	79	0.6709	12.91	60.10
	(%)	0.03	0.01	0.01	0.0	0.79				
OL	(N)	0	0	1	1	75	107	0.7009	15.21	67.92
	(%)	0.0	0.0	0.01	0.01	0.82				
CR	(N)	2	1	2	0	137	176	0.7784	18.35	90.59
	(%)	0.01	0.01	0.01	0.0	0.88				
WE	(N)	40	18	21	21	2152	2798	0.7691	18.40	89.53
	(%)	0.02	0.01	0.01	0.01	0.86				
WC	(N)	57	20	29	12	2777	3589	0.7738	18.19	87.91
	(%)	0.02	0.01	0.01	0.00	0.85				
WS	(N)	56	32	27	20	2766	3557	0.7776	18.38	86.32
	(%)	0.02	0.01	0.01	0.01	0.85				
WW	(N)	35	8	10	10	1469	1958	0.7503	17.32	86.65
	(%)	0.02	0.00	0.01	0.01	0.85				
TOT	(N)	247	93	117	84	11009	14828	0.7424	17.36	83.01
	(%)	0.02	0.01	0.01	0.01	0.83				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-18
ITEM RESPONSE PATTERNS AND STATISTICS
ITEM PN - 3

		RESPONSE									
GROUP		NR	1	2*	3	4	5	N	P	MS	MT
AI	(N)	15	4	135	10	4	3	178	0.7584	15.66	70.14
	(%)	0.08	0.02	0.83	0.06	0.02	0.02				
AA	(N)	205	102	1301	86	59	36	1895	0.6865	13.17	60.38
	(%)	0.11	0.06	0.77	0.05	0.03	0.02				
MA	(N)	35	17	377	24	9	9	491	0.7678	15.68	67.72
	(%)	0.07	0.04	0.83	0.05	0.02	0.02				
PR	(N)	7	2	60	3	3	2	79	0.7595	12.91	60.10
	(%)	0.09	0.03	0.83	0.04	0.04	0.03				
CL	(N)	9	4	81	5	2	3	107	0.7570	15.21	67.92
	(%)	0.08	0.04	0.83	0.05	0.02	0.03				
CR	(N)	21	2	136	4	4	4	176	0.7727	18.35	90.59
	(%)	0.12	0.01	0.88	0.03	0.03	0.03				
WE	(N)	241	59	2245	74	73	38	2798	0.8024	18.40	89.53
	(%)	0.09	0.02	0.88	0.03	0.03	0.01				
WC	(N)	298	98	2840	108	103	38	3589	0.7913	18.19	87.91
	(%)	0.08	0.03	0.86	0.03	0.03	0.01				
WS	(N)	275	81	2867	107	85	46	3557	0.8060	18.38	86.32
	(%)	0.08	0.02	0.87	0.03	0.03	0.01				
WW	(N)	192	42	1546	51	41	23	1958	0.7896	17.32	86.65
	(%)	0.10	0.02	0.88	0.03	0.02	0.01				
TOT	(N)	1298	411	11588	472	388	202	14828	0.7815	17.36	83.01
	(%)	0.09	0.03	0.86	0.03	0.03	0.01				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

ITEM RESPONSE PATTERNS AND STATISTICS
ITEM PN - 3 CONTINUED

GROUP		RESPONSE 6	7	8	9	10	N	P	MS	MT
AI	(N)	0	2	0	1	4	178	0.7584	15.66	70.14
	(%)	0.0	0.01	0.0	0.01	0.02				
AA	(N)	3	10	12	22	56	1895	0.6865	13.17	60.38
	(%)	0.00	0.01	0.01	0.01	0.03				
MA	(N)	1	2	2	4	10	491	0.7678	15.68	67.72
	(%)	0.00	0.00	0.00	0.01	0.02				
PR	(N)	0	0	1	1	0	79	0.7595	12.91	60.10
	(%)	0.0	0.0	0.01	0.01	0.0				
CL	(N)	0	1	1	1	0	107	0.7570	15.21	67.92
	(%)	0.0	0.01	0.01	0.01	0.0				
GR	(N)	1	1	0	1	2	176	0.7727	18.35	90.59
	(%)	0.01	0.01	0.0	0.01	0.01				
WE	(N)	2	7	11	14	33	2798	0.8024	18.40	89.53
	(%)	0.00	0.00	0.00	0.01	0.01				
WC	(N)	6	14	6	25	46	3589	0.7913	18.19	87.91
	(%)	0.00	0.00	0.00	0.01	0.01				
WS	(N)	10	11	5	22	44	3557	0.8060	18.38	86.32
	(%)	0.00	0.00	0.00	0.01	0.01				
WW	(N)	7	1	6	8	41	1958	0.7896	17.32	86.65
	(%)	0.00	0.00	0.00	0.00	0.02				
TOT	(N)	30	49	48	99	236	14828	0.7815	17.36	83.01
	(%)	0.00	0.00	0.00	0.01	0.02				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-19
ITEM RESPONSE PATTERNS AND STATISTICS
ITEM PN - 4

		RESPONSE									
GROUP		NR	1*	2	3	4	5	N	P	MS	MT
AI	(N)	30	108	4	5	9	4	178	0.6067	15.66	70.14
	(%)	0.17	0.73	0.03	0.03	0.06	0.03				
AA	(N)	427	990	61	75	113	41	1895	0.5224	13.17	60.38
	(%)	0.23	0.67	0.04	0.05	0.08	0.03				
MA	(N)	86	310	8	22	20	1	491	0.6314	15.68	67.72
	(%)	0.18	0.77	0.02	0.05	0.05	0.00				
PR	(N)	18	45	4	1	6	0	79	0.5696	12.91	60.10
	(%)	0.23	0.74	0.07	0.02	0.10	0.0				
OL	(N)	22	66	5	3	4	2	107	0.6168	15.21	67.92
	(%)	0.21	0.78	0.06	0.04	0.05	0.02				
CR	(N)	40	113	0	6	1	1	176	0.6420	18.35	90.59
	(%)	0.23	0.83	0.0	0.04	0.01	0.01				
WE	(N)	508	1967	46	57	70	18	2798	0.7030	18.40	89.53
	(%)	0.18	0.86	0.02	0.02	0.03	0.01				
WC	(N)	636	2489	58	76	108	26	3589	0.6935	18.19	87.91
	(%)	0.18	0.84	0.02	0.03	0.04	0.01				
WS	(N)	561	2481	59	89	123	16	3557	0.6975	18.38	86.32
	(%)	0.16	0.83	0.02	0.03	0.04	0.01				
WW	(N)	396	1316	38	29	65	14	1958	0.6721	17.32	86.65
	(%)	0.20	0.84	0.02	0.02	0.04	0.01				
TOT	(N)	2724	9885	283	363	519	123	14828	0.6666	17.36	83.01
	(%)	0.18	0.82	0.02	0.03	0.04	0.01				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

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                    ITEM RESPONSE PATTERNS AND STATISTICS
                              ITEM  PN - 4  CONTINUED
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                        RESPONSE
          -----------------------------------------
  GROUP       6       7       8       9      10        N        P      MS        MT
---------------------------------------------------------------------------------------------------

  AI  (N)       9       4       4       1       0      178   0.6067   15.66     70.14
      (%)    0.06    0.03    0.03    0.01    0.0

  AA  (N)     107      30      14      23      11     1895   0.5224   13.17     60.38
      (%)    0.07    0.02    0.01    0.02    0.01

  MA  (N)      27       4       2       8       2      491   0.6314   15.68     67.72
      (%)    0.07    0.01    0.00    0.02    0.00

  PR  (N)       2       2       1       0       0       79   0.5696   12.91     60.10
      (%)    0.03    0.03    0.02    0.0     0.0

  OL  (N)       1       3       0       1       0      107   0.6168   15.21     67.92
      (%)    0.01    0.04    0.0     0.01    0.0

  OR  (N)      10       1       2       2       0      176   0.6420   18.35     90.59
      (%)    0.07    0.01    0.01    0.01    0.0

  WE  (N)      57      27      29      23       4     2798   0.7030   18.40     89.53
      (%)    0.02    0.01    0.01    0.01    0.00

  WC  (N)     101      38      34      13       8     3589   0.6935   18.19     87.91
      (%)    0.03    0.01    0.01    0.00    0.00

  WS  (N)      99      39      32      43      15     3557   0.6975   18.38     86.32
      (%)    0.03    0.01    0.01    0.01    0.01

  WW  (N)      45      16      19      12       8     1958   0.6721   17.32     86.65
      (%)    0.03    0.01    0.01    0.01    0.01

  TOT (N)     458     164     128     126      48    14828   0.6666   17.36     83.01
      (%)    0.04    0.01    0.01    0.01    0.00
---------------------------------------------------------------------------------------------------
  % NR = NR/(TOTAL N)            % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)
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TABLE E-20

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM PN - 5

GROUP		RESPONSE NR	1	2	3	4	5	N	P	MS	MT
AI	(N)	54	8	1	16	6	17	178	0.3596	15.66	70.14
	(%)	0.30	0.06	0.01	0.13	0.05	0.14				
AA	(N)	609	69	57	117	93	136	1895	0.3193	13.17	60.38
	(%)	0.32	0.05	0.04	0.09	0.07	0.11				
MA	(N)	131	22	18	28	8	33	491	0.4257	15.68	67.72
	(%)	0.27	0.06	0.05	0.08	0.02	0.09				
PR	(N)	31	2	1	5	4	7	79	0.2658	12.91	60.10
	(%)	0.39	0.04	0.02	0.10	0.08	0.15				
OL	(N)	36	3	0	4	7	5	107	0.4299	15.21	67.92
	(%)	0.34	0.04	0.0	0.06	0.10	0.07				
OR	(N)	52	4	4	6	3	14	176	0.4659	18.35	90.59
	(%)	0.30	0.03	0.03	0.05	0.02	0.11				
WE	(N)	876	83	59	88	71	126	2798	0.4761	18.40	89.53
	(%)	0.31	0.04	0.03	0.05	0.04	0.07				
WC	(N)	1058	104	94	124	104	176	3589	0.4759	18.19	87.91
	(%)	0.29	0.04	0.04	0.05	0.04	0.07				
WS	(N)	884	113	77	143	121	186	3557	0.5044	18.38	86.32
	(%)	0.25	0.04	0.03	0.05	0.05	0.07				
WW	(N)	643	54	50	77	72	103	1958	0.4316	17.32	86.65
	(%)	0.33	0.04	0.04	0.06	0.05	0.08				
TOT	(N)	4374	462	361	608	489	803	14828	0.4523	17.36	83.01
	(%)	0.29	0.04	0.03	0.06	0.05	0.08				

% NR = NR/(TOTAL N)　　　% RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

ITEM RESPONSE PATTERNS AND STATISTICS
ITEM PN - 5 CONTINUED

GROUP		6	7*	8	9	10	N	P	MS	MT
		RESPONSE								
AI	(N)	5	64	0	4	3	178	0.3596	15.66	70.14
	(%)	0.04	0.52	0.0	0.03	0.02				
AA	(N)	116	605	19	22	49	1895	0.3193	13.17	60.38
	(%)	0.09	0.47	0.01	0.02	0.04				
MA	(N)	18	209	4	10	9	491	0.4257	15.68	67.72
	(%)	0.05	0.58	0.01	0.03	0.02				
PR	(N)	6	21	0	0	2	79	0.2658	12.91	60.10
	(%)	0.13	0.44	0.0	0.0	0.04				
OL	(N)	5	46	1	0	0	107	0.4299	15.21	67.92
	(%)	0.07	0.65	0.01	0.0	0.0				
CR	(N)	5	82	1	3	2	176	0.4659	18.35	90.59
	(%)	0.04	0.66	0.01	0.02	0.02				
WE	(N)	100	1332	12	18	32	2798	0.4761	18.40	89.53
	(%)	0.05	0.69	0.01	0.01	0.02				
WC	(N)	125	1708	22	34	38	3589	0.4759	18.19	87.91
	(%)	0.05	0.67	0.01	0.01	0.02				
WS	(N)	116	1794	36	36	51	3557	0.5044	18.38	86.32
	(%)	0.04	0.67	0.01	0.01	0.02				
WW	(N)	62	845	10	20	22	1958	0.4316	17.32	86.65
	(%)	0.05	0.64	0.01	0.02	0.02				
TOT	(N)	558	6706	105	147	208	14828	0.4523	17.36	83.01
	(%)	0.05	0.64	0.01	0.01	0.02				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-21

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM PN - 6

GROUP		NR	1	2	3	4	5	N	P	MS	MT
			RESPONSE								
AI	(N)	62	7	4	11	3	1	178	0.3989	15.66	70.14
	(%)	0.35	0.06	0.03	0.09	0.03	0.01				
AA	(N)	789	70	68	92	41	33	1895	0.3261	13.17	60.38
	(%)	0.42	0.06	0.06	0.08	0.04	0.03				
MA	(N)	174	13	19	18	10	15	491	0.4073	15.68	67.72
	(%)	0.35	0.04	0.06	0.06	0.03	0.05				
PR	(N)	38	2	4	3	1	2	79	0.3038	12.91	60.10
	(%)	0.48	0.05	0.10	0.07	0.02	0.05				
CL	(N)	48	4	2	4	0	1	107	0.3738	15.21	67.92
	(%)	0.45	0.07	0.03	0.07	0.0	0.02				
OR	(N)	65	4	3	4	3	1	176	0.4830	18.35	90.59
	(%)	0.37	0.04	0.03	0.04	0.03	0.01				
WE	(N)	1020	47	62	75	28	33	2798	0.4757	18.40	89.53
	(%)	0.36	0.03	0.03	0.04	0.02	0.02				
WC	(N)	1254	86	88	93	46	45	3589	0.4695	18.19	87.91
	(%)	0.35	0.04	0.04	0.04	0.02	0.02				
WS	(N)	1146	82	94	123	43	51	3557	0.4824	18.38	86.32
	(%)	0.32	0.03	0.04	0.05	0.02	0.02				
WW	(N)	759	48	50	55	16	14	1958	0.4423	17.32	86.65
	(%)	0.39	0.04	0.04	0.05	0.01	0.01				
TOT	(N)	5355	363	394	478	191	196	14828	0.4475	17.36	83.01
	(%)	0.36	0.04	0.04	0.05	0.02	0.02				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

ITEM RESPONSE PATTERNS AND STATISTICS
ITEM PN - 6 CONTINUED

GROUP		RESPONSE 6	7	8*	9	10	N	P	MS	MT
AI	(N)	3	5	71	9	2	178	0.3989	15.66	70.14
	(%)	0.03	0.04	0.61	0.08	0.02				
AA	(N)	42	34	618	91	14	1895	0.3261	13.17	60.38
	(%)	0.04	0.03	0.56	0.08	0.01				
MA	(N)	13	5	200	20	3	491	0.4073	15.68	67.72
	(%)	0.04	0.02	0.63	0.06	0.01				
PR	(N)	1	1	24	3	0	79	0.3038	12.91	60.10
	(%)	0.02	0.02	0.59	0.07	0.0				
OL	(N)	0	3	40	5	0	107	0.3738	15.21	67.92
	(%)	0.0	0.05	0.68	0.08	0.0				
OR	(N)	4	2	85	5	0	176	0.4830	18.35	90.59
	(%)	0.04	0.02	0.77	0.05	0.0				
WE	(N)	62	21	1331	108	10	2798	0.4757	18.40	89.53
	(%)	0.03	0.01	0.75	0.06	0.01				
WC	(N)	80	33	1685	162	15	3589	0.4695	18.19	87.91
	(%)	0.03	0.01	0.72	0.07	0.01				
WS	(N)	100	36	1716	149	17	3557	0.4824	18.38	86.32
	(%)	0.04	0.01	0.71	0.06	0.01				
WW	(N)	41	17	866	84	8	1958	0.4423	17.32	86.65
	(%)	0.03	0.01	0.72	0.07	0.01				
TOT	(N)	346	157	6636	636	69	14828	0.4475	17.36	83.01
	(%)	0.04	0.02	0.70	0.07	0.01				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-22

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM PN - 7

		RESPONSE									
GROUP		NR	1	2*	3	4	5	N	P	MS	MT
AI	(N)	41	4	109	6	4	7	178	0.6124	15.66	70.14
	(%)	0.23	0.03	0.80	0.04	0.03	0.05				
AA	(N)	613	44	976	44	68	66	1895	0.5150	13.17	60.38
	(%)	0.32	0.03	0.76	0.03	0.05	0.05				
MA	(N)	116	11	308	9	14	12	491	0.6273	15.68	67.72
	(%)	0.24	0.03	0.82	0.02	0.04	0.03				
PR	(N)	27	1	44	1	4	0	79	0.5570	12.91	60.10
	(%)	0.34	0.02	0.85	0.02	0.08	0.0				
OL	(N)	24	2	71	1	2	1	107	0.6636	15.21	67.92
	(%)	0.22	0.02	0.86	0.01	0.02	0.01				
OR	(N)	35	2	121	5	2	5	176	0.6875	18.35	90.59
	(%)	0.20	0.01	0.86	0.04	0.01	0.04				
WE	(N)	524	38	2070	23	40	34	2798	0.7398	18.40	89.53
	(%)	0.19	0.02	0.91	0.01	0.02	0.01				
WC	(N)	692	42	2578	52	59	65	3589	0.7183	18.19	87.91
	(%)	0.19	0.01	0.89	0.02	0.02	0.02				
WS	(N)	630	49	2617	46	53	51	3557	0.7357	18.38	86.32
	(%)	0.18	0.02	0.89	0.02	0.02	0.02				
WW	(N)	427	37	1361	32	24	34	1958	0.6951	17.32	86.65
	(%)	0.22	0.02	0.89	0.02	0.02	0.02				
TOT	(N)	3129	230	10255	219	270	275	14828	0.6916	17.36	83.01
	(%)	0.21	0.02	0.88	0.02	0.02	0.02				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONCING)

ITEM RESPONSE PATTERNS AND STATISTICS
ITEM PN - 7 CONTINUED

		RESPONSE								
GROUP		6	7	8	9	10	N	P	MS	MT
AI	(N)	0	1	2	2	2	178	0.6124	15.66	70.14
	(%)	0.0	0.01	0.01	0.01	0.01				
AA	(N)	12	19	13	30	7	1895	0.5150	13.17	60.38
	(%)	0.01	0.01	0.01	0.02	0.01				
MA	(N)	4	3	3	7	3	491	0.6273	15.68	67.72
	(%)	0.01	0.01	0.01	0.02	0.01				
PR	(N)	0	1	0	0	1	79	0.5570	12.91	60.10
	(%)	0.0	0.02	0.0	0.0	0.02				
CL	(N)	2	1	1	0	2	107	0.6636	15.21	67.92
	(%)	0.02	0.01	0.01	0.0	0.02				
OR	(N)	0	1	2	3	0	176	0.6875	18.35	90.59
	(%)	0.0	0.01	0.01	0.02	0.0				
WE	(N)	15	8	11	23	11	2798	0.7398	18.40	89.53
	(%)	0.01	0.00	0.00	0.01	0.00				
WC	(N)	18	10	26	35	10	3589	0.7183	18.19	87.91
	(%)	0.01	0.00	0.01	0.01	0.00				
WS	(N)	15	15	24	45	12	3557	0.7357	18.38	86.32
	(%)	0.01	0.01	0.01	0.02	0.00				
WW	(N)	11	7	11	9	5	1958	0.6951	17.32	86.65
	(%)	0.01	0.00	0.01	0.01	0.00				
TOT	(N)	77	66	93	154	53	14828	0.6916	17.36	83.01
	(%)	0.01	0.01	0.01	0.01	0.00				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONCING)

TABLE E-23
ITEM RESPONSE PATTERNS AND STATISTICS
ITEM PN - 8

		RESPONSE									
GROUP		NR	1	2	3*	4	5	N	P	MS	MT
AI	(N)	57	5	2	90	6	3	178	0.5056	15.66	70.14
	(%)	0.32	0.04	0.02	0.74	0.05	0.02				
AA	(N)	846	34	29	794	53	39	1895	0.4190	13.17	60.38
	(%)	0.45	0.03	0.03	0.76	0.05	0.04				
MA	(N)	161	8	4	273	14	10	491	0.5560	15.68	67.72
	(%)	0.33	0.02	0.01	0.83	0.04	0.03				
PR	(N)	37	0	3	34	0	1	79	0.4304	12.91	60.10
	(%)	0.47	0.0	0.07	0.81	0.0	0.02				
CL	(N)	37	1	0	56	2	3	107	0.5234	15.21	67.92
	(%)	0.35	0.01	0.0	0.80	0.03	0.04				
OR	(N)	42	4	2	116	2	1	176	0.6591	18.35	90.59
	(%)	0.24	0.03	0.01	0.87	0.01	0.01				
WE	(N)	845	41	38	1677	47	50	2798	0.5994	18.40	89.53
	(%)	0.30	0.02	0.02	0.86	0.02	0.03				
WC	(N)	1057	50	48	2168	71	47	3589	0.6041	18.19	87.91
	(%)	0.29	0.02	0.02	0.86	0.03	0.02				
WS	(N)	942	52	53	2213	84	60	3557	0.6222	18.38	86.32
	(%)	0.26	0.02	0.02	0.85	0.03	0.02				
WW	(N)	585	36	26	1155	42	38	1958	0.5899	17.32	86.65
	(%)	0.30	0.03	0.02	0.84	0.03	0.03				
TOT	(N)	4609	231	205	8576	321	252	14828	0.5784	17.36	83.01
	(%)	0.31	0.02	0.02	0.84	0.03	0.02				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

ITEM RESPONSE PATTERNS AND STATISTICS
ITEM PN - 8 CONTINUED

GROUP		RESPONSE 6	7	8	9	10	N	P	MS	MT
AI	(N)	4	4	5	0	2	178	0.5056	15.66	70.14
	(%)	0.03	0.03	0.04	0.0	0.02				
AA	(N)	36	12	30	5	13	1895	0.4190	13.17	60.38
	(%)	0.03	0.01	0.03	0.00	0.01				
MA	(N)	8	2	4	2	4	491	0.5560	15.68	67.72
	(%)	0.02	0.01	0.01	0.01	0.01				
PR	(N)	1	2	0	0	1	79	0.4304	12.91	60.10
	(%)	0.02	0.05	0.0	0.0	0.02				
CL	(N)	2	1	3	0	2	107	0.5234	15.21	67.92
	(%)	0.03	0.01	0.04	0.0	0.03				
CR	(N)	4	1	2	1	1	176	0.6591	18.35	90.59
	(%)	0.03	0.01	0.01	0.01	0.01				
WE	(N)	48	5	26	5	15	2798	0.5994	18.40	89.53
	(%)	0.02	0.00	0.01	0.00	0.01				
WC	(N)	65	11	47	4	19	3589	0.6041	18.19	87.91
	(%)	0.03	0.00	0.02	0.00	0.01				
WS	(N)	60	17	52	10	14	3557	0.6222	18.38	86.32
	(%)	0.02	0.01	0.02	0.00	0.01				
WW	(N)	30	6	28	4	8	1958	0.5899	17.32	86.65
	(%)	0.02	0.00	0.02	0.00	0.01				
TOT	(N)	258	62	197	31	79	14828	0.5784	17.36	83.01
	(%)	0.03	0.01	0.02	0.00	0.01				

% NR = NR/(TOTAL N) % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONCING)

TABLE E-24
ITEM RESPONSE PATTERNS AND STATISTICS
ITEM PN - 9

GROUP		RESPONSE NR	1	2	3	4	5*	N	P	MS	MT
AI	(N)	64	2	3	5	4	84	178	0.4719	15.66	70.14
	(%)	0.36	0.02	0.03	0.04	0.04	0.74				
AA	(N)	974	38	30	50	22	651	1895	0.3435	13.17	60.38
	(%)	0.51	0.04	0.03	0.05	0.02	0.71				
MA	(N)	207	4	5	15	12	218	491	0.4440	15.68	67.72
	(%)	0.42	0.01	0.02	0.05	0.04	0.77				
PR	(N)	37	0	1	1	1	31	79	0.3924	12.91	60.10
	(%)	0.47	0.0	0.02	0.02	0.02	0.74				
OL	(N)	53	0	0	6	2	36	107	0.3364	15.21	67.92
	(%)	0.50	0.0	0.0	0.11	0.04	0.67				
CR	(N)	61	3	2	5	2	91	176	0.5170	18.35	90.59
	(%)	0.35	0.03	0.02	0.04	0.02	0.79				
WE	(N)	1045	32	39	57	39	1416	2798	0.5061	18.40	89.53
	(%)	0.37	0.02	0.02	0.03	0.02	0.81				
WC	(N)	1239	56	45	71	43	1902	3589	0.5300	18.19	87.91
	(%)	0.35	0.02	0.02	0.03	0.02	0.81				
WS	(N)	1220	46	54	67	72	1855	3557	0.5215	18.38	86.32
	(%)	0.34	0.02	0.02	0.03	0.03	0.79				
WW	(N)	728	26	30	36	34	1001	1958	0.5112	17.32	86.65
	(%)	0.37	0.02	0.02	0.03	0.03	0.81				
TOT	(N)	5628	207	209	313	231	7285	14828	0.4913	17.36	83.01
	(%)	0.38	0.02	0.02	0.03	0.03	0.79				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

ITEM RESPONSE PATTERNS AND STATISTICS
ITEM PN - 9 CONTINUED

GROUP		RESPONSE 6	7	8	9	10	N	P	MS	MT
AI	(N)	0	5	1	4	6	178	0.4719	15.66	70.14
	(%)	0.0	0.04	0.01	0.04	0.05				
AA	(N)	8	14	14	52	39	1895	0.3435	13.17	60.38
	(%)	0.01	0.02	0.02	0.06	0.04				
MA	(N)	2	0	5	12	10	491	0.4440	15.68	67.72
	(%)	0.01	0.0	0.02	0.04	0.04				
PR	(N)	0	0	1	3	4	79	0.3924	12.91	60.10
	(%)	0.0	0.0	0.02	0.07	0.10				
CL	(N)	1	2	3	3	1	107	0.3364	15.21	67.92
	(%)	0.02	0.04	0.06	0.06	0.02				
OR	(N)	3	1	2	4	2	176	0.5170	18.35	90.59
	(%)	0.03	0.01	0.02	0.03	0.02				
WE	(N)	11	15	27	68	48	2798	0.5061	18.40	89.53
	(%)	0.01	0.01	0.02	0.04	0.03				
WC	(N)	6	26	39	99	61	3589	0.5300	18.19	87.91
	(%)	0.00	0.01	0.02	0.04	0.03				
WS	(N)	13	16	42	101	71	3557	0.5215	18.38	86.32
	(%)	0.01	0.01	0.02	0.04	0.03				
WW	(N)	5	6	18	51	23	1958	0.5112	17.32	86.65
	(%)	0.00	0.00	0.01	0.04	0.02				
TOT	(N)	49	85	152	397	265	14828	0.4913	17.36	83.01
	(%)	0.01	0.01	0.02	0.04	0.03				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-25
ITEM RESPONSE PATTERNS AND STATISTICS
ITEM PN -10

GROUP		RESPONSE NR	1	2	3	4	5	N	P	MS	MT
AI	(N)	73	5	0	8	0	2	178	0.4157	15.66	70.14
	(%)	0.41	0.05	0.0	0.08	0.0	0.02				
AA	(N)	997	50	22	32	19	12	1895	0.3288	13.17	60.38
	(%)	0.53	0.06	0.02	0.04	0.02	0.01				
MA	(N)	214	13	4	7	3	3	491	0.4216	15.68	67.72
	(%)	0.44	0.05	0.01	0.03	0.01	0.01				
PR	(N)	42	1	1	2	2	1	79	0.3291	12.91	60.10
	(%)	0.53	0.03	0.03	0.05	0.05	0.03				
CL	(N)	52	0	4	1	2	0	107	0.3364	15.21	67.92
	(%)	0.49	0.0	0.07	0.02	0.04	0.0				
OR	(N)	69	2	1	4	2	0	176	0.4830	18.35	90.59
	(%)	0.39	0.02	0.01	0.04	0.02	0.0				
WE	(N)	1040	44	23	39	13	9	2798	0.5197	18.40	89.53
	(%)	0.37	0.03	0.01	0.02	0.01	0.01				
WC	(N)	1295	58	22	73	21	11	3589	0.5118	18.19	87.91
	(%)	0.36	0.03	0.01	0.03	0.01	0.00				
WS	(N)	1229	62	44	69	27	14	3557	0.5249	18.38	86.32
	(%)	0.35	0.03	0.02	0.03	0.01	0.01				
WW	(N)	774	29	14	32	9	13	1958	0.4632	17.32	86.65
	(%)	0.40	0.02	0.01	0.03	0.01	0.01				
TOT	(N)	5785	264	135	267	98	65	14828	0.4799	17.36	83.01
	(%)	0.39	0.03	0.01	0.03	0.01	0.01				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

ITEM RESPONSE PATTERNS AND STATISTICS
ITEM PN -10 CONTINUED

GROUP		RESPONSE 6	7	8	9*	10	N	P	MS	MT
AI	(N)	8	1	4	74	3	178	0.4157	15.66	70.14
	(%)	0.08	0.01	0.04	0.70	0.03				
AA	(N)	47	9	22	623	59	1895	0.3288	13.17	60.38
	(%)	0.05	0.01	0.02	0.69	0.07				
MA	(N)	17	5	7	207	10	491	0.4216	15.68	67.72
	(%)	0.06	0.02	0.03	0.75	0.04				
PR	(N)	1	3	0	26	0	79	0.3291	12.91	60.10
	(%)	0.03	0.08	0.0	0.70	0.0				
OL	(N)	5	2	3	36	2	107	0.3364	15.21	67.92
	(%)	0.09	0.04	0.05	0.65	0.04				
OR	(N)	6	0	3	85	4	176	0.4830	18.35	90.59
	(%)	0.06	0.0	0.03	0.79	0.04				
WE	(N)	95	13	24	1454	43	2798	0.5197	18.40	89.53
	(%)	0.05	0.01	0.01	0.83	0.02				
WC	(N)	152	21	44	1837	53	3589	0.5118	18.19	87.91
	(%)	0.07	0.01	0.02	0.80	0.02				
WS	(N)	132	13	35	1867	65	3557	0.5249	18.38	86.32
	(%)	0.06	0.01	0.02	0.80	0.03				
WW	(N)	88	19	31	907	42	1958	0.4632	17.32	86.65
	(%)	0.07	0.02	0.03	0.77	0.04				
TOT	(N)	551	86	173	7116	281	14828	0.4799	17.36	83.01
	(%)	0.06	0.01	0.02	0.79	0.03				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-26
ITEM RESPONSE PATTERNS AND STATISTICS
ITEM PN -11

GROUP		RESPONSE									
		NR	1	2*	3	4	5	N	P	MS	MT
AI	(N)	73	0	80	7	1	3	178	0.4494	15.66	70.14
	(%)	0.41	0.0	0.76	0.07	0.01	0.03				
AA	(N)	1072	22	639	35	13	25	1895	0.3372	13.17	60.38
	(%)	0.57	0.03	0.78	0.04	0.02	0.03				
MA	(N)	241	7	207	10	7	3	491	0.4216	15.68	67.72
	(%)	0.49	0.03	0.83	0.04	0.03	0.01				
PR	(N)	48	0	28	0	0	1	79	0.3544	12.91	60.10
	(%)	0.61	0.0	0.90	0.0	0.0	0.03				
OL	(N)	49	1	49	1	1	0	107	0.4579	15.21	67.92
	(%)	0.46	0.02	0.84	0.02	0.02	0.0				
OR	(N)	61	0	102	6	0	1	176	0.5795	18.35	90.59
	(%)	0.35	0.0	0.89	0.05	0.0	0.01				
WE	(N)	1088	14	1540	42	11	24	2798	0.5504	18.40	89.53
	(%)	0.39	0.01	0.90	0.02	0.01	0.01				
WC	(N)	1423	28	1920	58	21	35	3589	0.5350	18.19	87.91
	(%)	0.40	0.01	0.89	0.03	0.01	0.02				
WS	(N)	1379	35	1877	75	25	38	3557	0.5277	18.38	86.32
	(%)	0.39	0.02	0.86	0.03	0.01	0.02				
WW	(N)	835	16	973	34	13	12	1958	0.4969	17.32	86.65
	(%)	0.43	0.01	0.87	0.03	0.01	0.01				
TOT	(N)	6269	123	7415	268	92	142	14828	0.5001	17.36	83.01
	(%)	0.42	0.01	0.87	0.03	0.01	0.02				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

ITEM RESPONSE PATTERNS AND STATISTICS
ITEM PN -11 CONTINUED

GROUP		RESPONSE 6	7	8	9	10	N	P	MS	MT
AI	(N)	2	0	9	3	0	178	0.4494	15.66	70.14
	(%)	0.02	0.0	0.05	0.03	0.0				
AA	(N)	3	12	50	16	5	1895	0.3372	13.17	60.38
	(%)	0.00	0.01	0.06	0.02	0.01				
MA	(N)	2	0	9	4	0	491	0.4216	15.68	67.72
	(%)	0.01	0.0	0.04	0.02	0.0				
PR	(N)	0	0	2	0	0	79	0.3544	12.91	60.10
	(%)	0.0	0.0	0.06	0.0	0.0				
OL	(N)	0	1	3	1	1	107	0.4579	15.21	67.92
	(%)	0.0	0.02	0.05	0.02	0.02				
OR	(N)	0	0	4	2	0	176	0.5795	18.35	90.59
	(%)	0.0	0.0	0.03	0.02	0.0				
WE	(N)	11	14	33	18	2	2798	0.5504	18.40	89.53
	(%)	0.01	0.01	0.02	0.01	0.00				
WC	(N)	9	12	58	19	4	3589	0.5350	18.19	87.91
	(%)	0.00	0.01	0.03	0.01	0.00				
WS	(N)	9	23	62	22	12	3557	0.5277	18.38	86.32
	(%)	0.00	0.01	0.03	0.01	0.01				
WW	(N)	10	8	35	13	9	1958	0.4969	17.32	86.65
	(%)	0.01	0.01	0.03	0.01	0.01				
TOT	(N)	46	70	265	98	33	14828	0.5001	17.36	83.01
	(%)	0.01	0.01	0.03	0.01	0.00				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-27

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM PN -12

GROUP		NR	1	2	3	4	5	N	P	MS	MT
		RESPONSE									
AI	(N)	89	3	0	4	1	4	178	0.3820	15.66	70.14
	(%)	0.50	0.03	0.0	0.04	0.01	0.04				
AA	(N)	1216	15	8	23	32	21	1895	0.2755	13.17	60.38
	(%)	0.64	0.02	0.01	0.03	0.05	0.03				
MA	(N)	279	3	2	9	5	5	491	0.3564	15.68	67.72
	(%)	0.57	0.01	0.01	0.04	0.02	0.02				
PR	(N)	50	2	0	1	1	1	79	0.2911	12.91	60.10
	(%)	0.63	0.07	0.0	0.03	0.03	0.03				
OL	(N)	58	3	0	1	2	2	107	0.3551	15.21	67.92
	(%)	0.54	0.06	0.0	0.02	0.04	0.04				
OR	(N)	86	2	1	0	0	2	176	0.4545	18.35	90.59
	(%)	0.49	0.02	0.01	0.0	0.0	0.02				
WE	(N)	1304	11	7	16	24	18	2798	0.4839	18.40	89.53
	(%)	0.47	0.01	0.00	0.01	0.02	0.01				
WC	(N)	1660	17	11	38	28	21	3589	0.4809	18.19	87.91
	(%)	0.46	0.01	0.01	0.02	0.01	0.01				
WS	(N)	1591	14	[illegible]	34	32	48	3557	0.4852	18.38	86.32
	(%)	0.45	0.01	0.01	0.02	0.02	0.02				
WW	(N)	975	12	10	19	18	9	1958	0.4418	17.32	86.65
	(%)	0.50	0.01	0.01	0.02	0.02	0.01				
TOT	(N)	7308	82	51	145	143	131	14828	0.4436	17.36	83.01
	(%)	0.49	0.01	0.01	0.02	0.02	0.02				

% NR = NR/(TOTAL N)　　　% RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

ITEM RESPONSE PATTERNS AND STATISTICS
ITEM PN -12 CONTINUED

		RESPONSE								
GROUP		6	7	8	9*	10	N	P	MS	MT
AI	(N)	1	2	3	68	3	178	0.3820	15.66	70.14
	(%)	0.01	0.02	0.03	0.76	0.03				
AA	(N)	14	10	19	522	12	1895	0.2755	13.17	60.38
	(%)	0.02	0.01	0.03	0.77	0.0				
MA	(N)	3	4	3	175	2	491	0.3564	15.68	67.72
	(%)	0.01	0.02	0.01	0.83	0.01				
PR	(N)	0	1	0	23	0	79	0.2911	12.91	60.10
	(%)	0.0	0.03	0.0	0.79	0.0				
OL	(N)	0	1	2	38	0	107	0.3551	15.21	67.92
	(%)	0.0	0.02	0.04	0.78	0.0				
OR	(N)	4	0	0	80	1	176	0.4545	18.35	90.59
	(%)	0.04	0.0	0.0	0.89	0.01				
WE	(N)	16	11	21	1354	15	2798	0.4839	18.40	89.53
	(%)	0.01	0.01	0.01	0.91	0.01				
WC	(N)	32	20	22	1726	12	3589	0.4809	18.19	87.91
	(%)	0.02	0.01	0.01	0.89	0.01				
WS	(N)	26	24	33	1726	17	3557	0.4852	18.38	86.32
	(%)	0.01	0.01	0.02	0.88	0.01				
WW	(N)	17	12	10	865	11	1958	0.4418	17.32	86.65
	(%)	0.02	0.01	0.01	0.88	0.01				
TOT	(N)	113	85	113	6577	73	14828	0.4436	17.36	83.01
	(%)	0.02	0.01	0.02	0.87	0.01				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-28
ITEM RESPONSE PATTERNS AND STATISTICS
ITEM PN -13

GROUP		RESPONSE NR	1*	2	3	4	5	N	P	MS	MT
AI	(N)	78	86	1	0	4	1	178	0.4831	15.66	70.14
	(%)	0.44	0.86	0.01	0.0	0.04	0.01				
AA	(N)	1162	621	10	25	13	15	1895	0.3277	13.17	60.38
	(%)	0.61	0.85	0.01	0.03	0.02	0.02				
MA	(N)	260	211	3	5	2	3	491	0.4297	15.68	67.72
	(%)	0.53	0.91	0.01	0.02	0.01	0.01				
PR	(N)	49	27	0	0	0	0	79	0.3418	12.91	60.10
	(%)	0.62	0.90	0.0	0.0	0.0	0.0				
CL	(N)	48	48	1	3	1	2	107	0.4486	15.21	67.92
	(%)	0.45	0.81	0.02	0.05	0.02	0.03				
OR	(N)	55	116	0	1	1	1	176	0.6591	18.35	90.59
	(%)	0.31	0.96	0.0	0.01	0.01	0.01				
WE	(N)	1010	1700	10	21	13	10	2798	0.6076	18.40	89.53
	(%)	0.36	0.95	0.01	0.01	0.01	0.01				
WC	(N)	1323	2138	16	23	18	13	3589	0.5957	18.19	87.91
	(%)	0.37	0.94	0.01	0.01	0.01	0.01				
WS	(N)	1344	2042	13	33	26	19	3557	0.5741	18.38	86.32
	(%)	0.38	0.92	0.01	0.01	0.01	0.01				
WW	(N)	780	1095	11	20	9	8	1958	0.5592	17.32	86.65
	(%)	0.40	0.93	0.01	0.02	0.01	0.01				
TOT	(N)	6109	8084	65	131	87	72	14828	0.5452	17.36	83.01
	(%)	0.41	0.93	0.01	0.02	0.01	0.01				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

ITEM RESPONSE PATTERNS AND STATISTICS
ITEM PN -13 CONTINUED

GROUP		RESPONSE 6	7	8	9	10	N	P	MS	MT
AI	(N)	3	2	1	0	2	178	0.4831	15.66	70.14
	(%)	0.03	0.02	0.01	0.0	0.02				
AA	(N)	9	15	3	15	4	1895	0.3277	13.17	60.38
	(%)	0.01	0.02	0.00	0.02	0.01				
MA	(N)	1	1	0	2	2	491	0.4297	15.68	67.72
	(%)	0.00	0.00	0.0	0.01	0.01				
PR	(N)	1	0	1	1	0	79	0.3418	12.91	60.10
	(%)	0.03	0.0	0.03	0.03	0.0				
OL	(N)	0	0	2	1	1	107	0.4486	15.21	67.92
	(%)	0.0	0.0	0.03	0.02	0.02				
OR	(N)	1	0	1	0	0	176	0.6591	18.35	90.59
	(%)	0.01	0.0	0.01	0.0	0.0				
WE	(N)	9	11	4	8	1	2798	0.6076	18.40	89.53
	(%)	0.01	0.01	0.00	0.00	0.00				
WC	(N)	14	11	8	19	4	3589	0.5957	18.19	87.91
	(%)	0.01	0.00	0.00	0.01	0.00				
WS	(N)	14	33	9	18	6	3557	0.5741	18.38	86.32
	(%)	0.01	0.01	0.00	0.01	0.00				
WW	(N)	4	21	2	7	1	1958	0.5592	17.32	86.65
	(%)	0.00	0.02	0.00	0.01	0.00				
TOT	(N)	56	94	31	71	21	14828	0.5452	17.36	83.01
	(%)	0.01	0.01	0.00	0.01	0.00				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-29

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM PN -14

GROUP		NR	RESPONSE 1	2	3	4*	5	N	P	MS	MT
AI	(N)	90	1	0	6	74	1	178	0.4157	15.66	70.14
	(%)	0.51	0.01	0.0	0.07	0.84	0.01				
AA	(N)	1138	10	9	11	667	14	1895	0.3520	13.17	60.38
	(%)	0.60	0.01	0.01	0.01	0.88	0.02				
MA	(N)	262	0	2	4	209	4	491	0.4257	15.68	67.72
	(%)	0.53	0.0	0.01	0.02	0.91	0.02				
PR	(N)	45	0	1	1	31	0	79	0.3924	12.91	60.10
	(%)	0.57	0.0	0.03	0.03	0.91	0.0				
CL	(N)	54	0	0	1	46	1	107	0.4299	15.21	67.92
	(%)	0.50	0.0	0.0	0.02	0.87	0.02				
CR	(N)	62	0	0	2	109	0	176	0.6193	18.35	90.59
	(%)	0.35	0.0	0.0	0.02	0.96	0.0				
WE	(N)	1104	8	14	11	1607	15	2798	0.5743	18.40	89.53
	(%)	0.39	0.00	0.01	0.01	0.95	0.01				
WC	(N)	1463	13	17	15	1997	32	3589	0.5564	18.19	87.91
	(%)	0.41	0.01	0.01	0.01	0.94	0.02				
WS	(N)	1458	12	21	20	1952	31	3557	0.5488	18.38	86.32
	(%)	0.41	0.01	0.01	0.01	0.93	0.01				
WW	(N)	855	15	9	9	1022	12	1958	0.5220	17.32	86.65
	(%)	0.44	0.01	0.01	0.01	0.93	0.01				
TOT	(N)	6531	59	73	80	7714	110	14828	0.5202	17.36	83.01
	(%)	0.44	0.01	0.01	0.01	0.93	0.01				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

ITEM RESPONSE PATTERNS AND STATISTICS
ITEM PN -14 CONTINUED

		RESPONSE								
GROUP		6	7	8	9	10	N	P	MS	MT
AI	(N)	0	2	1	3	0	178	0.4157	15.66	70.14
	(%)	0.0	0.02	0.01	0.03	0.0				
AA	(N)	7	10	7	7	12	1895	0.3520	13.17	60.38
	(%)	0.01	0.01	0.01	0.01	0.02				
MA	(N)	1	3	1	3	1	491	0.4257	15.68	67.72
	(%)	0.00	0.01	0.00	0.01	0.00				
PR	(N)	0	0	0	1	0	79	0.3924	12.91	60.10
	(%)	0.0	0.0	0.0	0.03	0.0				
CL	(N)	3	1	0	0	1	107	0.4299	15.21	67.92
	(%)	0.06	0.02	0.0	0.0	0.02				
OR	(N)	0	1	0	2	0	176	0.6193	18.35	90.59
	(%)	0.0	0.01	0.0	0.02	0.0				
WE	(N)	8	8	7	12	3	2798	0.5743	18.40	89.53
	(%)	0.00	0.00	0.00	0.01	0.00				
WC	(N)	9	10	12	13	6	3589	0.5564	18.19	87.91
	(%)	0.00	0.00	0.01	0.01	0.00				
WS	(N)	6	15	16	16	10	3557	0.5488	18.38	86.32
	(%)	0.00	0.01	0.01	0.01	0.00				
WW	(N)	8	9	6	8	5	1958	0.5220	17.32	86.65
	(%)	0.01	0.01	0.01	0.01	0.00				
TOT	(N)	42	59	50	65	38	14828	0.5202	17.36	83.01
	(%)	0.01	0.01	0.01	0.01	0.00				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-30

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM PN -15

		RESPONSE									
GROUP		NR	1	2	3	4	5	N	P	MS	MT
AI	(N)	104	0	0	0	5	4	178	0.3258	15.66	70.14
	(%)	0.58	0.0	0.0	0.0	0.07	0.05				
AA	(N)	1285	31	9	10	14	32	1895	0.2544	13.17	60.38
	(%)	0.68	0.05	0.01	0.02	0.02	0.05				
MA	(N)	282	11	2	5	8	1	491	0.3544	15.68	67.72
	(%)	0.57	0.05	0.01	0.02	0.04	0.00				
PR	(N)	55	0	0	1	2	1	79	0.2405	12.91	60.10
	(%)	0.70	0.0	0.0	0.04	0.08	0.04				
OL	(N)	56	1	1	1	1	2	107	0.3832	15.21	67.92
	(%)	0.52	0.02	0.02	0.02	0.02	0.04				
OR	(N)	72	3	0	1	1	0	176	0.5511	18.35	90.59
	(%)	0.41	0.02	0.0	0.01	0.01	0.0				
WE	(N)	1252	37	14	10	17	30	2798	0.5021	18.40	89.53
	(%)	0.45	0.02	0.01	0.01	0.01	0.02				
WC	(N)	1574	43	9	12	28	28	3589	0.5132	18.19	87.91
	(%)	0.44	0.02	0.00	0.01	0.01	0.01				
WS	(N)	1594	51	21	15	25	27	3557	0.4951	18.38	86.32
	(%)	0.45	0.03	0.01	0.01	0.01	0.01				
WW	(N)	913	33	5	13	6	23	1958	0.4760	17.32	86.65
	(%)	0.47	0.03	0.00	0.01	0.01	0.02				
TOT	(N)	7187	210	61	68	107	148	14828	0.4593	17.36	83.01
	(%)	0.48	0.03	0.01	0.01	0.01	0.02				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

ITEM RESPONSE PATTERNS AND STATISTICS
ITEM PN -15 CONTINUED

GROUP		RESPONSE 6	7*	8	9	10	N	P	MS	MT
AI	(N)	3	58	1	2	1	178	0.3258	15.66	70.14
	(%)	0.04	0.78	0.01	0.03	0.01				
AA	(N)	8	482	7	10	4	1895	0.2544	13.17	60.38
	(%)	0.01	0.79	0.01	0.02	0.01				
MA	(N)	2	174	2	2	1	491	0.3544	15.68	67.72
	(%)	0.01	0.83	0.01	0.01	0.00				
PR	(N)	0	19	1	0	0	79	0.2405	12.91	60.10
	(%)	0.0	0.79	0.04	0.0	0.0				
OL	(N)	2	41	1	0	1	107	0.3832	15.21	67.92
	(%)	0.04	0.80	0.02	0.0	0.02				
OR	(N)	1	97	0	[illegible]	0	176	0.5511	18.35	90.59
	(%)	0.01	0.93	0.0	[illegible]	0.0				
WE	(N)	11	1405	10	8	3	2798	0.5021	18.40	89.53
	(%)	0.01	0.91	0.01	0.01	0.00				
WC	(N)	24	1842	19	5	3	3589	0.5132	18.19	87.91
	(%)	0.01	0.91	0.01	0.00	0.00				
WS	(N)	26	1761	17	11	9	3557	0.4951	18.38	86.32
	(%)	0.01	0.90	0.01	0.01	0.00				
WW	(N)	13	932	5	10	5	1958	0.4760	17.32	86.65
	(%)	0.01	0.89	0.00	0.01	0.00				
TOT	(N)	90	6811	63	49	27	14828	0.4593	17.36	83.01
	(%)	0.01	0.89	0.01	0.01	0.00				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-31
ITEM RESPONSE PATTERNS AND STATISTICS
ITEM PN -16

GROUP		RESPONSE NR	1	2*	3	4	5	N	P	MS	MT
AI	(N)	19	5	124	6	4	9	178	0.6966	15.66	70.14
	(%)	0.11	0.03	0.78	0.04	0.03	0.06				
AA	(N)	218	70	1267	49	66	112	1895	0.6686	13.17	60.38
	(%)	0.12	0.04	0.76	0.03	0.04	0.07				
MA	(N)	64	18	323	12	21	20	491	0.6578	15.68	67.72
	(%)	0.13	0.04	0.76	0.03	0.05	0.05				
PR	(N)	9	3	55	2	2	4	79	0.6962	12.91	60.10
	(%)	0.11	0.04	0.79	0.03	0.03	0.06				
CL	(N)	17	4	74	2	4	4	107	0.6916	15.21	67.92
	(%)	0.16	0.04	0.82	0.02	0.04	0.04				
OR	(N)	15	6	137	1	6	5	176	0.7784	18.35	90.59
	(%)	0.09	0.04	0.85	0.01	0.04	0.03				
WE	(N)	395	56	2086	39	81	71	2798	0.7455	18.40	89.53
	(%)	0.14	0.02	0.87	0.02	0.03	0.03				
WC	(N)	480	69	2657	49	98	113	3589	0.7403	18.19	87.91
	(%)	0.13	0.02	0.85	0.02	0.03	0.04				
WS	(N)	429	71	2698	51	108	105	3557	0.7585	18.38	86.32
	(%)	0.12	0.02	0.86	0.02	0.03	0.03				
WW	(N)	297	40	1409	22	59	63	1958	0.7196	17.32	86.65
	(%)	0.15	0.02	0.85	0.01	0.04	0.04				
TOT	(N)	1943	342	10830	233	449	506	14828	0.7304	17.36	83.01
	(%)	0.13	0.03	0.84	0.02	0.03	0.04				

% NR = NR/(TOTAL N) % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONCING)

ITEM RESPONSE PATTERNS AND STATISTICS
ITEM PN -16 CONTINUED

GROUP		RESPONSE 6	7	8	9	10	N	P	MS	MT
AI	(N)	5	3	1	1	1	178	0.6966	15.66	70.14
	(%)	0.03	0.02	0.01	0.01	0.01				
AA	(N)	46	21	10	18	15	1895	0.6686	13.17	60.38
	(%)	0.03	0.01	0.01	0.01	0.01				
MA	(N)	16	5	2	6	3	491	0.6578	15.68	67.72
	(%)	0.04	0.01	0.00	0.01	0.01				
PR	(N)	2	0	1	1	0	79	0.6962	12.91	60.10
	(%)	0.03	0.0	0.01	0.01	0.0				
OL	(N)	2	0	0	0	0	107	0.6916	15.21	67.92
	(%)	0.02	0.0	0.0	0.0	0.0				
OR	(N)	1	1	0	4	0	176	0.7784	18.35	90.59
	(%)	0.01	0.01	0.0	0.02	0.0				
WE	(N)	47	11	3	5	3	2798	0.7455	18.40	89.53
	(%)	0.02	0.00	0.00	0.00	0.00				
WC	(N)	73	24	5	11	8	3589	0.7403	18.19	87.91
	(%)	0.02	0.01	0.00	0.00	0.00				
WS	(N)	48	19	8	13	7	3557	0.7585	18.38	86.32
	(%)	0.02	0.01	0.00	0.00	0.00				
WW	(N)	34	16	4	10	4	1958	0.7196	17.32	86.65
	(%)	0.02	0.01	0.00	0.01	0.00				
TOT	(N)	274	100	34	69	41	14828	0.7304	17.36	83.01
	(%)	0.02	0.01	0.00	0.01	0.00				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-32
ITEM RESPONSE PATTERNS AND STATISTICS
ITEM PN -17

GROUP		RESPONSE									
		NR	1	2	3	4	5	N	P	MS	MT
AI	(N)	31	2	4	9	4	10	178	0.6067	15.66	70.14
	(%)	0.17	0.01	0.03	0.06	0.03	0.07				
AA	(N)	396	35	32	125	96	162	1895	0.4902	13.17	60.38
	(%)	0.21	0.02	0.02	0.08	0.06	0.11				
MA	(N)	86	6	6	26	23	41	491	0.5662	15.68	67.72
	(%)	0.18	0.01	0.01	0.06	0.06	0.10				
PR	(N)	17	1	1	8	5	3	79	0.4684	12.91	60.10
	(%)	0.22	0.02	0.02	0.13	0.08	0.05				
OL	(N)	25	1	2	3	7	4	107	0.5701	15.21	67.92
	(%)	0.23	0.01	0.02	0.04	0.09	0.05				
OR	(N)	37	1	1	10	7	5	176	0.6080	18.35	90.59
	(%)	0.21	0.01	0.01	0.07	0.05	0.04				
WE	(N)	516	9	18	74	65	129	2798	0.6726	18.40	89.53
	(%)	0.18	0.00	0.01	0.03	0.03	0.06				
WC	(N)	655	23	36	116	117	178	3589	0.6392	18.19	87.91
	(%)	0.18	0.01	0.01	0.04	0.04	0.06				
WS	(N)	568	18	48	107	107	198	3557	0.6652	18.38	86.32
	(%)	0.16	0.01	0.02	0.04	0.04	0.07				
WW	(N)	431	9	11	68	44	107	1958	0.6190	17.32	86.65
	(%)	0.22	0.01	0.01	0.04	0.03	0.07				
TOT	(N)	2762	105	159	546	475	837	14828	0.6254	17.36	83.01
	(%)	0.19	0.01	0.01	0.05	0.04	0.07				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

ITEM RESPONSE PATTERNS AND STATISTICS
ITEM PN -17 CONTINUED

GROUP		RESPONSE					N	P	MS	MT
		6*	7	8	9	10				
AI	(N)	108	7	0	2	1	178	0.6067	15.66	70.14
	(%)	0.73	0.05	0.0	0.01	0.01				
AA	(N)	929	61	16	25	15	1895	0.4902	13.17	60.38
	(%)	0.62	0.04	0.01	0.02	0.01				
MA	(N)	278	9	5	9	1	491	0.5662	15.68	67.72
	(%)	0.69	0.02	0.01	0.02	0.00				
PR	(N)	37	2	1	3	1	79	0.4684	12.91	60.10
	(%)	0.60	0.03	0.02	0.05	0.02				
CL	(N)	61	1	1	2	0	107	0.5701	15.21	67.92
	(%)	0.74	0.01	0.01	0.02	0.0				
OR	(N)	107	6	1	1	0	176	0.6080	18.35	90.59
	(%)	0.77	0.04	0.01	0.01	0.0				
WE	(N)	1882	40	17	38	9	2798	0.6726	18.40	89.53
	(%)	0.82	0.02	0.01	0.02	0.00				
WC	(N)	2294	80	19	57	12	3589	0.6392	18.19	87.91
	(%)	0.78	0.03	0.01	0.02	0.00				
WS	(N)	2366	75	20	40	10	3557	0.6652	18.38	86.32
	(%)	0.79	0.03	0.01	0.01	0.00				
WW	(N)	1212	32	9	28	7	1958	0.6190	17.32	86.65
	(%)	0.79	0.02	0.01	0.02	0.00				
TOT	(N)	9274	313	89	205	56	14828	0.6254	17.36	83.01
	(%)	0.77	0.03	0.01	0.02	0.00				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-33

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM PN -18

GROUP		RESPONSE									
		NR	1*	2	3	4	5	N	P	MS	MT
AI	(N)	4	157	5	4	1	0	178	0.8820	15.66	70.14
	(%)	0.02	0.90	0.03	0.02	0.01	0.0				
AA	(N)	91	1549	63	48	26	32	1895	0.8174	13.17	60.38
	(%)	0.05	0.86	0.03	0.03	0.01	0.02				
MA	(N)	25	417	20	6	3	5	491	0.8493	15.68	67.72
	(%)	0.05	0.89	0.04	0.01	0.01	0.01				
PR	(N)	4	70	4	1	0	0	79	0.8861	12.91	60.10
	(%)	0.05	0.93	0.05	0.01	0.0	0.0				
OL	(N)	5	93	4	2	0	0	107	0.8692	15.21	67.92
	(%)	0.05	0.91	0.04	0.02	0.0	0.0				
OR	(N)	9	156	3	4	2	0	176	0.8864	18.35	90.59
	(%)	0.05	0.93	0.02	0.02	0.01	0.0				
WE	(N)	127	2519	39	26	20	26	2798	0.9003	18.40	89.53
	(%)	0.05	0.94	0.01	0.01	0.01	0.01				
WC	(N)	200	3130	90	50	32	32	3589	0.8721	18.1[illegible]	87.91
	(%)	0.06	0.92	0.03	0.01	0.01	0.01				
WS	(N)	168	3141	72	51	41	34	3557	0.8830	18.38	86.32
	(%)	0.05	0.93	0.02	0.02	0.01	0.01				
WW	(N)	94	1712	42	28	22	20	1958	0.8744	17.32	86.65
	(%)	0.05	0.92	0.02	0.02	0.01	0.01				
TOT	(N)	727	12944	342	220	147	149	14828	0.8729	17.36	83.01
	(%)	0.05	0.92	0.02	0.02	0.01	0.01				

% NR = NR/(TOTAL N)　　　% RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

ITEM RESPONSE PATTERNS AND STATISTICS
ITEM PN -18 CONTINUED

GROUP		RESPONSE 6	7	8	9	10	N	P	MS	MT
AI	(N)	2	3	0	2	0	178	0.8820	15.66	70.14
	(%)	0.01	0.02	0.0	0.01	0.0				
AA	(N)	19	12	30	18	4	1895	0.8174	13.17	60.38
	(%)	0.01	0.01	0.02	0.01	0.00				
MA	(N)	5	3	3	2	1	491	0.8493	15.68	67.72
	(%)	0.01	0.01	0.01	0.00	0.00				
PR	(N)	0	0	0	0	0	79	0.8861	12.91	60.10
	(%)	0.0	0.0	0.0	0.0	0.0				
CL	(N)	1	1	1	0	0	107	0.8692	15.21	67.92
	(%)	0.01	0.01	0.01	0.0	0.0				
OR	(N)	0	1	0	1	0	176	0.8864	18.35	90.59
	(%)	0.0	0.01	0.0	0.01	0.0				
WE	(N)	9	6	19	6	0	2798	0.9003	18.40	89.53
	(%)	0.00	0.00	0.01	0.00	0.0				
WC	(N)	17	8	18	6	4	3589	0.8721	18.19	87.91
	(%)	0.01	0.00	0.01	0.00	0.00				
WS	(N)	10	10	15	11	4	3557	0.8830	18.38	86.32
	(%)	0.00	0.00	0.00	0.00	0.00				
WW	(N)	12	4	17	7	0	1958	0.8744	17.32	86.65
	(%)	0.01	0.00	0.01	0.00	0.0				
TOT	(N)	75	48	103	53	13	14828	0.8729	17.36	83.01
	(%)	0.01	0.00	0.01	0.00	0.00				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-34

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM PN -19

GROUP		RESPONSE									
		NR	1	2	3	4	5*	N	P	MS	MT
AI	(N)	34	1	6	6	30	87	178	0.4888	15.66	70.14
	(%)	0.19	0.01	0.04	0.04	0.21	0.60				
AA	(N)	411	14	43	91	252	924	1895	0.4876	13.17	60.38
	(%)	0.22	0.01	0.03	0.06	0.17	0.62				
MA	(N)	97	4	4	25	76	251	491	0.5112	15.68	67.72
	(%)	0.20	0.01	0.01	0.06	0.19	0.64				
PR	(N)	19	0	2	3	12	35	79	0.4430	12.91	60.10
	(%)	0.24	0.0	0.03	0.05	0.20	0.58				
CL	(N)	22	0	6	4	12	52	107	0.4860	15.21	67.92
	(%)	0.21	0.0	0.07	0.05	0.14	0.61				
OR	(N)	36	1	2	2	14	111	176	0.6307	18.35	90.59
	(%)	0.20	0.01	0.01	0.01	0.10	0.79				
WE	(N)	548	9	38	58	304	1718	2798	0.6140	18.40	89.53
	(%)	0.20	0.00	0.02	0.03	0.14	0.76				
WC	(N)	721	4	59	92	369	2139	3589	0.5960	18.19	87.91
	(%)	0.20	0.00	0.02	0.03	0.13	0.75				
WS	(N)	600	10	66	93	397	2193	3557	0.6165	18.38	86.32
	(%)	0.17	0.00	0.02	0.03	0.13	0.74				
WW	(N)	427	6	42	64	196	1122	1958	0.5730	17.32	86.65
	(%)	0.22	0.00	0.03	0.04	0.13	0.73				
TOT	(N)	2915	49	268	438	1662	8632	14828	0.5821	17.36	83.01
	(%)	0.20	0.00	0.02	0.04	0.14	0.72				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

ITEM RESPONSE PATTERNS AND STATISTICS
ITEM PN -19 CONTINUED

GROUP		RESPONSE 6	7	8	9	10	N	P	MS	MT
AI	(N)	5	4	4	0	1	178	0.4888	15.66	70.14
	(%)	0.03	0.03	0.03	0.0	0.01				
AA	(N)	50	48	33	12	14	1895	0.4876	13.17	60.38
	(%)	0.03	0.03	0.02	0.01	0.01				
MA	(N)	8	11	11	3	0	491	0.5112	15.68	67.72
	(%)	0.02	0.03	0.03	0.01	0.0				
PR	(N)	2	3	1	1	1	79	0.4430	12.91	60.10
	(%)	0.03	0.05	0.02	0.02	0.02				
CL	(N)	4	4	2	1	0	107	0.4860	15.21	67.92
	(%)	0.05	0.05	0.02	0.01	0.0				
OR	(N)	3	1	1	4	1	176	0.6307	18.35	90.59
	(%)	0.02	0.01	0.01	0.03	0.01				
WE	(N)	39	45	19	9	10	2798	0.6140	18.40	89.53
	(%)	0.02	0.02	0.01	0.00	0.00				
WC	(N)	81	55	47	13	7	3589	0.5960	18.19	87.91
	(%)	0.03	0.02	0.02	0.00	0.00				
WS	(N)	74	58	33	17	16	3557	0.6165	18.38	86.32
	(%)	0.03	0.02	0.01	0.01	0.01				
WW	(N)	25	45	25	2	4	1958	0.5730	17.32	86.65
	(%)	0.02	0.03	0.02	0.00	0.00				
TOT	(N)	291	274	176	62	54	14828	0.5821	17.36	83.01
	(%)	0.02	0.02	0.01	0.01	0.00				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONCING)

TABLE E-35
ITEM RESPONSE PATTERNS AND STATISTICS
ITEM PN -20

GROUP		NR	1	2	3	4*	5	N	P	MS	MT
		RESPONSE									
AI	(N)	34	0	3	10	98	18	178	0.5506	15.66	70.14
	(%)	0.19	0.0	0.02	.0.07	0.68	0.13				
AA	(N)	483	15	72	114	867	132	1895	0.4575	13.17	60.38
	(%)	0.25	0.01	0.05	0.08	0.61	0.09				
MA	(N)	114	1	10	36	246	32	491	0.5010	15.68	67.72
	(%)	0.23	0.00	0.03	0.10	0.65	0.08				
PR	(N)	26	1	5	6	28	4	79	0.3544	12.91	60.10
	(%)	0.33	0.02	0.09	0.11	0.53	0.08				
CL	(N)	28	1	3	8	49	8	107	0.4579	15.21	67.92
	(%)	0.26	0.01	0.04	0.10	0.62	0.10				
OR	(N)	47	1	2	6	97	11	176	0.5511	18.35	90.59
	(%)	0.27	0.01	0.02	0.05	0.75	0.09				
WE	(N)	690	8	47	104	1595	153	2798	0.5701	18.40	89.53
	(%)	0.25	0.00	0.02	0.05	0.76	0.07				
WC	(N)	878	23	69	124	1953	239	3589	0.5442	18.19	87.91
	(%)	0.24	0.01	0.03	0.05	0.72	0.09				
WS	(N)	737	24	70	119	2080	231	3557	0.5848	18.38	86.32
	(%)	0.21	0.01	0.02	0.04	0.74	0.08				
WW	(N)	576	8	35	67	1023	102	1958	0.5225	17.32	86.65
	(%)	0.29	0.01	0.03	0.05	0.74	0.07				
TOT	(N)	3613	82	316	594	8036	930	14828	0.5419	17.36	83.01
	(%)	0.24	0.01	0.03	0.05	0.72	0.08				

% NR = NR/(TOTAL N) % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

ITEM RESPONSE PATTERNS AND STATISTICS
ITEM PN -20 CONTINUED

GROUP		RESPONSE 6	7	8	9	10	N	P	MS	MT
AI	(N)	7	5	1	0	2	178	0.5506	15.66	70.14
	(%)	0.05	0.03	0.01	0.0	0.01				
AA	(N)	64	39	15	44	47	1895	0.4575	13.17	60.38
	(%)	0.05	0.03	0.01	0.03	0.03				
MA	(N)	12	9	8	7	15	491	0.5010	15.68	67.72
	(%)	0.03	0.02	0.02	0.02	0.04				
PR	(N)	2	5	1	0	1	79	0.3544	12.91	60.10
	(%)	0.04	0.09	0.02	0.0	0.02				
CL	(N)	4	3	1	1	1	107	0.4579	15.21	67.92
	(%)	0.05	0.04	0.01	0.01	0.01				
OR	(N)	3	3	1	1	4	176	0.5511	18.35	90.59
	(%)	0.02	0.02	0.01	0.01	0.03				
WE	(N)	52	41	24	36	47	2798	0.5701	18.40	89.53
	(%)	0.02	0.02	0.01	0.02	0.02				
WC	(N)	94	65	34	56	52	3589	0.5442	18.19	87.91
	(%)	0.03	0.02	0.01	0.02	0.02				
WS	(N)	87	65	20	50	74	3557	0.5848	18.38	86.32
	(%)	0.03	0.02	0.01	0.02	0.03				
WW	(N)	49	32	12	22	32	1958	0.5225	17.32	86.65
	(%)	0.04	0.02	0.01	0.02	0.02				
TOT	(N)	374	267	117	217	275	14828	0.5419	17.36	83.01
	(%)	0.03	0.02	0.01	0.02	0.02				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-36

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM PN -21

GROUP		RESPONSE NR	1	2	3*	4	5	N	P	MS	MT
AI	(N)	28	2	13	97	9	13	178	0.5449	15.66	70.14
	(%)	0.16	0.01	0.09	0.65	0.06	0.09				
AA	(N)	422	26	135	975	104	86	1895	0.5145	13.17	60.38
	(%)	0.22	0.02	0.09	0.66	0.07	0.06				
MA	(N)	90	1	29	288	18	16	491	0.5866	15.68	67.72
	(%)	0.18	0.00	0.07	0.72	0.04	0.04				
PR	(N)	27	2	1	38	7	1	79	0.4810	12.91	60.10
	(%)	0.34	0.04	0.02	0.73	0.13	0.02				
CL	(N)	22	1	6	59	6	6	107	0.5514	15.21	67.92
	(%)	0.21	0.01	0.07	0.69	0.07	0.07				
OR	(N)	34	1	5	115	4	5	176	0.6534	18.35	90.59
	(%)	0.19	0.01	0.04	0.81	0.03	0.04				
WE	(N)	584	14	88	1790	71	59	2798	0.6397	18.40	89.53
	(%)	0.21	0.01	0.04	0.81	0.03	0.03				
WC	(N)	663	20	109	2388	115	82	3589	0.6654	18.19	87.91
	(%)	0.18	0.01	0.04	0.82	0.04	0.03				
WS	(N)	626	25	132	2326	131	99	3557	0.6539	18.38	86.32
	(%)	0.18	0.01	0.05	0.79	0.04	0.03				
WW	(N)	470	9	58	1193	65	48	1958	0.6093	17.32	86.65
	(%)	0.24	0.01	0.04	0.80	0.04	0.03				
TOT	(N)	2966	101	576	9269	530	415	14828	0.6251	17.36	83.01
	(%)	0.20	0.01	0.05	0.78	0.04	0.03				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

ITEM RESPONSE PATTERNS AND STATISTICS
ITEM PN -21 CONTINUED

GROUP		RESPONSE								
		6	7	8	9	10	N	P	MS	MT
AI	(N)	2	6	3	2	3	178	0.5449	15.66	70.14
	(%)	0.01	0.04	0.02	0.01	0.02				
AA	(N)	10	62	19	22	31	1895	0.5145	13.17	60.38
	(%)	0.01	0.04	0.01	0.01	0.02				
MA	(N)	2	18	8	9	11	491	0.5866	15.68	67.72
	(%)	0.00	0.04	0.02	0.02	0.03				
PR	(N)	0	0	2	1	0	79	0.4810	12.91	60.10
	(%)	0.0	0.0	0.04	0.02	0.0				
OL	(N)	1	1	2	3	0	107	0.5514	15.21	67.92
	(%)	0.01	0.01	0.02	0.04	0.0				
OR	(N)	1	5	1	4	1	176	0.6534	18.35	90.59
	(%)	0.01	0.04	0.01	0.03	0.01				
WE	(N)	17	87	20	32	35	2798	0.6397	18.40	89.53
	(%)	0.01	0.04	0.01	0.01	0.02				
WC	(N)	10	110	28	32	30	3589	0.6654	18.19	87.91
	(%)	0.00	0.04	0.01	0.01	0.01				
WS	(N)	15	101	33	31	38	3557	0.6539	18.38	86.32
	(%)	0.01	0.03	0.01	0.01	0.01				
WW	(N)	3	60	15	14	23	1558	0.6093	17.32	86.65
	(%)	0.00	0.04	0.01	0.01	0.02				
TOT	(N)	61	450	131	150	172	14828	0.6251	17.36	83.01
	(%)	0.01	0.04	0.01	0.01	0.01				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-37

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM PN -22

GROUP		NR	1	2	3*	4	5	N	P	MS	MT
		RESPONSE									
AI	(N)	29	2	6	105	6	9	178	0.5899	15.66	70.14
	(%)	0.16	0.01	0.04	0.70	0.04	0.06				
AA	(N)	403	45	109	966	133	66	1895	0.5098	13.17	60.38
	(%)	0.21	0.03	0.07	0.65	0.09	0.04				
MA	(N)	97	6	26	270	32	18	491	0.5499	15.68	67.72
	(%)	0.20	0.02	0.07	0.69	0.08	0.05				
PR	(N)	22	1	6	36	6	2	79	0.4557	12.91	60.10
	(%)	0.28	0.02	0.11	0.63	0.11	0.04				
OL	(N)	24	0	4	62	7	3	107	0.5794	15.21	67.92
	(%)	0.22	0.0	0.05	0.75	0.08	0.04				
OR	(N)	30	2	6	119	10	2	176	0.6761	18.35	90.59
	(%)	0.17	0.01	0.04	0.82	0.07	0.01				
WE	(N)	490	43	95	1841	111	62	2798	0.6580	18.40	89.53
	(%)	0.18	0.02	0.04	0.80	0.05	0.03				
WC	(N)	592	48	134	2320	177	88	3589	0.6464	18.19	87.91
	(%)	0.16	0.02	0.04	0.77	0.06	0.03				
WS	(N)	560	52	152	2350	153	92	3557	0.6607	18.38	86.32
	(%)	0.16	0.02	0.05	0.78	0.05	0.03				
WW	(N)	433	20	70	1192	78	47	1958	0.6088	17.32	86.65
	(%)	0.22	0.01	0.05	0.78	0.05	0.03				
TOT	(N)	2680	219	608	9261	713	389	14828	0.6246	17.36	83.01
	(%)	0.18	0.02	0.05	0.76	0.06	0.03				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

ITEM RESPONSE PATTERNS AND STATISTICS
ITEM PN -22 CONTINUED

		RESPONSE								
GROUP		6	7	8	9	10	N	P	MS	MT
AI	(N)	4	6	5	5	1	178	0.5899	15.66	70.14
	(%)	0.03	0.04	0.03	0.03	0.01				
AA	(N)	47	28	44	18	33	1895	0.5098	13.17	60.38
	(%)	0.03	0.02	0.03	0.01	0.02				
MA	(N)	13	5	14	4	5	491	0.5499	15.68	67.72
	(%)	0.03	0.01	0.04	0.01	0.01				
PR	(N)	2	2	1	0	1	79	0.4557	12.91	60.10
	(%)	0.04	0.04	0.02	0.0	0.02				
OL	(N)	4	1	2	0	0	107	0.5794	15.21	67.92
	(%)	0.05	0.01	0.02	0.0	0.0				
OR	(N)	3	0	2	0	2	176	0.6761	18.35	90.59
	(%)	0.02	0.0	0.01	0.0	0.01				
WE	(N)	53	23	46	18	15	2798	0.6580	18.40	89.53
	(%)	0.02	0.01	0.02	0.01	0.01				
WC	(N)	62	52	51	22	41	3589	0.6464	18.19	87.91
	(%)	0.02	0.02	0.02	0.01	0.01				
WS	(N)	66	39	49	19	25	3557	0.6607	18.38	86.32
	(%)	0.02	0.01	0.02	0.01	0.01				
WW	(N)	37	20	34	13	14	1958	0.6088	17.32	86.65
	(%)	0.02	0.01	0.02	0.01	0.01				
TOT	(N)	291	176	248	99	137	14828	0.6246	17.36	83.01
	(%)	0.02	0.01	0.02	0.01	0.01				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-38

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM PN -23

GROUP		RESPONSE NR	1	2	3	4	5	N	P	MS	MT
AI	(N)	44	3	5	5	3	9	178	0.5169	15.66	70.14
	(%)	0.25	0.02	0.04	0.04	0.02	0.07				
AA	(N)	711	13	70	59	57	63	1895	0.4042	13.17	60.38
	(%)	0.38	0.01	0.06	0.05	0.05	0.05				
MA	(N)	137	0	13	13	21	23	491	0.4908	15.68	67.72
	(%)	0.28	0.0	0.04	0.05	0.06	0.06				
PR	(N)	34	0	4	6	3	1	79	0.2911	12.91	60.10
	(%)	0.43	0.0	0.09	0.13	0.07	0.02				
CL	(N)	33	1	7	4	1	2	107	0.4673	15.21	67.92
	(%)	0.31	0.01	0.09	0.05	0.01	0.03				
OR	(N)	46	0	0	3	2	6	176	0.6420	18.35	90.59
	(%)	0.26	0.0	0.0	0.02	0.02	0.05				
WE	(N)	767	23	58	55	62	75	2798	0.5733	18.40	89.53
	(%)	0.27	0.01	0.03	0.03	0.03	0.04				
WC	(N)	860	15	62	74	109	113	3589	0.5991	18.19	87.91
	(%)	0.24	0.01	0.02	0.03	0.04	0.04				
WS	(N)	799	15	95	72	85	130	3557	0.6050	18.38	86.32
	(%)	0.22	0.01	0.03	0.03	0.03	0.05				
WW	(N)	580	8	43	42	52	43	1958	0.5470	17.32	86.65
	(%)	0.30	0.01	0.03	0.03	0.04	0.03				
TOT	(N)	4011	78	357	336	395	465	14828	0.5572	17.36	83.01
	(%)	0.27	0.01	0.03	0.03	0.04	0.04				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

ITEM RESPONSE PATTERNS AND STATISTICS
ITEM PN -23 CONTINUED

GROUP		RESPONSE 6	7	8*	9	10	N	P	MS	MT
AI	(N)	7	1	92	7	2	178	0.5169	15.66	70.14
	(%)	0.05	0.01	0.69	0.05	0.01				
AA	(N)	86	14	766	34	19	1895	0.4042	13.17	60.38
	(%)	0.07	0.01	0.65	0.03	0.02				
MA	(N)	21	3	241	7	8	491	0.4908	15.68	67.72
	(%)	0.06	0.01	0.68	0.02	0.02				
PR	(N)	3	1	23	2	2	79	0.2911	12.91	60.10
	(%)	0.07	0.02	0.51	0.04	0.04				
OL	(N)	6	2	50	0	1	107	0.4673	15.21	67.92
	(%)	0.08	0.03	0.68	0.0	0.01				
OR	(N)	1	1	113	4	0	176	0.6420	18.35	90.59
	(%)	0.01	0.01	0.87	0.03	0.0				
WE	(N)	74	20	1604	32	27	2798	0.5733	18.40	89.53
	(%)	0.04	0.01	0.79	0.02	0.01				
WC	(N)	105	17	2150	34	48	3589	0.5991	18.19	87.91
	(%)	0.04	0.01	0.79	0.01	0.02				
WS	(N)	113	27	2152	37	32	3557	0.6050	18.38	86.32
	(%)	0.04	0.01	0.78	0.01	0.01				
WW	(N)	57	14	1071	29	19	1958	0.5470	17.32	86.65
	(%)	0.04	0.01	0.78	0.02	0.01				
TOT	(N)	473	100	8262	186	158	14828	0.5572	17.36	83.01
	(%)	0.04	0.01	0.76	0.02	0.01				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-39

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM PN -24

GROUP		RESPONSE NR	1	2	3	4*	5	N	P	MS	MT
AI	(N)	28	6	2	4	119	6	178	0.6685	15.66	70.14
	(%)	0.16	0.04	0.01	0.03	0.79	0.04				
AA	(N)	557	43	25	66	1020	62	1895	0.5383	13.17	60.38
	(%)	0.29	0.03	0.02	0.05	0.76	0.05				
MA	(N)	109	5	5	17	321	10	491	0.6538	15.68	67.72
	(%)	0.22	0.01	0.01	0.04	0.84	0.03				
PR	(N)	23	3	2	1	44	3	79	0.5570	12.91	60.10
	(%)	0.29	0.05	0.04	0.02	0.79	0.05				
CL	(N)	26	1	0	8	65	3	107	0.6075	15.21	67.92
	(%)	0.24	0.01	0.0	0.10	0.80	0.04				
OR	(N)	34	0	0	2	130	4	176	0.7386	18.35	90.59
	(%)	0.19	0.0	0.0	0.01	0.92	0.03				
WE	(N)	439	43	18	45	2067	77	2798	0.7387	18.40	89.53
	(%)	0.16	0.02	0.01	0.02	0.88	0.03				
WC	(N)	559	57	31	68	2610	101	3589	0.7272	18.19	87.91
	(%)	0.16	0.02	0.01	0.02	0.86	0.03				
WS	(N)	542	57	32	85	2592	106	3557	0.7287	18.38	86.32
	(%)	0.15	0.02	0.01	0.03	0.86	0.04				
WW	(N)	366	30	9	33	1372	62	1958	0.7007	17.32	86.65
	(%)	0.19	0.02	0.01	0.02	0.86	0.04				
TOT	(N)	2683	245	124	329	10340	434	14828	0.6973	17.36	83.01
	(%)	0.18	0.02	0.01	0.03	0.85	0.04				

% NR = NR/(TOTAL N)

% RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

ITEM RESPONSE PATTERNS AND STATISTICS
ITEM PN -24 CONTINUED

GROUP		RESPONSE 6	7	8	9	10	N	P	MS	MT
AI	(N)	1	5	2	4	1	178	0.6685	15.66	70.14
	(%)	0.01	0.03	0.01	0.03	0.01				
AA	(N)	6	46	20	39	8	1895	0.5383	13.17	60.38
	(%)	0.00	0.03	0.01	0.03	0.01				
MA	(N)	0	10	7	5	1	491	0.6538	15.68	67.72
	(%)	0.0	0.03	0.02	0.01	0.00				
PR	(N)	0	3	0	0	0	79	0.5570	12.91	60.10
	(%)	0.0	0.05	0.0	0.0	0.0				
CL	(N)	1	1	2	0	0	107	0.6075	15.21	67.92
	(%)	0.01	0.01	0.02	0.0	0.0				
CR	(N)	1	2	2	1	0	176	0.7386	18.35	90.59
	(%)	0.01	0.01	0.01	0.01	0.0				
WE	(N)	10	42	15	30	11	2798	0.7387	18.40	89.53
	(%)	0.00	0.02	0.01	0.01	0.00				
WC	(N)	15	58	22	59	7	3589	0.7272	18.19	87.91
	(%)	0.00	0.02	0.01	0.02	0.00				
WS	(N)	10	62	17	43	11	3557	0.7287	18.38	86.32
	(%)	0.00	0.02	0.01	0.01	0.00				
WW	(N)	4	27	21	30	4	1958	0.7007	17.32	86.65
	(%)	0.00	0.02	0.01	0.02	0.00				
TOT	(N)	48	256	108	211	43	14828	0.6973	17.36	83.01
	(%)	0.00	0.02	0.01	0.02	0.00				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-40

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM PN -25

GROUP		RESPONSE NR	1	2	3	4	5	N	P	MS	MT
AI	(N)	68	0	5	11	7	14	178	0.2921	15.66	70.14
	(%)	0.38	0.0	0.05	0.10	0.06	0.13				
AA	(N)	936	19	24	75	63	112	1895	0.2485	13.17	60.38
	(%)	0.49	0.02	0.03	0.08	0.07	0.12				
MA	(N)	196	5	11	23	23	16	491	0.3238	15.68	67.72
	(%)	0.40	0.02	0.04	0.08	0.08	0.05				
PR	(N)	44	2	0	4	3	0	79	0.1646	12.91	60.10
	(%)	0.56	0.06	0.0	0.11	0.09	0.0				
CL	(N)	44	1	4	4	1	5	107	0.2991	15.21	67.92
	(%)	0.41	0.02	0.06	0.06	0.02	0.08				
OR	(N)	77	0	1	2	5	12	176	0.3580	18.35	90.59
	(%)	0.44	0.0	0.01	0.02	0.05	0.12				
WE	(N)	1066	13	34	74	81	113	2798	0.3803	18.40	89.53
	(%)	0.38	0.01	0.02	0.04	0.05	0.07				
WC	(N)	1310	8	36	125	114	173	3589	0.3731	18.19	87.91
	(%)	0.37	0.00	0.02	0.05	0.05	0.08				
WS	(N)	1218	14	36	120	130	190	3557	0.3927	18.38	86.32
	(%)	0.34	0.01	0.02	0.05	0.06	0.08				
WW	(N)	781	9	19	63	62	89	1958	0.3555	17.32	86.65
	(%)	0.40	0.01	0.02	0.05	0.05	0.08				
TOT	(N)	5740	71	170	501	489	724	14828	0.3565	17.36	83.01
	(%)	0.39	0.01	0.02	0.06	0.05	0.08				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

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                    ITEM RESPONSE PATTERNS AND STATISTICS
                              ITEM  PN -25  CONTINUED
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                      RESPONSE
          -------------------------------------
 GROUP      6       7       8      9*      10       N        P       MS       MT
 ------------------------------------------------------------------------------------

 AI  (N)      3       3       9      52       6     178   0.2921   15.66    70.14
     (%)   0.03    0.03    0.08    0.47    0.05

 AA  (N)     26      12      75     471      79    1895   0.2485   13.17    60.38
     (%)   0.03    0.01    0.08    0.49    0.08

 MA  (N)      9       4      24     159      20     491   0.3238   15.68    67.72
     (%)   0.03    0.01    0.08    0.54    0.07

 PR  (N)      0       1       4      13       8      79   0.1646   12.91    60.10
     (%)   0.0     0.03    0.11    0.37    0.23

 CL  (N)      2       2       5      32       7     107   0.2991   15.21    67.92
     (%)   0.03    0.03    0.08    0.51    0.11

 OR  (N)      1       1       5      63       9     176   0.3580   18.35    90.59
     (%)   0.01    0.01    0.05    0.64    0.09

 WE  (N)     39      17     171    1064     125    2798   0.3803   18.40    89.53
     (%)   0.02    0.01    0.10    0.61    0.07

 WC  (N)     61      30     207    1339     184    3589   0.3731   18.19    87.91
     (%)   0.03    0.01    0.09    0.59    0.08

 WS  (N)     48      28     229    1397     147    3557   0.3927   18.38    86.32
     (%)   0.02    0.01    0.10    0.60    0.06

 WW  (N)     36      15     107     696      81    1958   0.3555   17.32    86.65
     (%)   0.03    0.01    0.09    0.59    0.07

 TOT (N)    225     113     836    5286     666   14828   0.3565   17.36    83.01
     (%)   0.02    0.01    0.09    0.58    0.07
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 % NR = NR/(TOTAL N)          % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)
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TABLE E-41

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM PN -26

GROUP		NR	1*	2	3	4	5	N	P	MS	MT
		RESPONSE									
AI	(N)	45	95	10	1	7	6	178	0.5337	15.66	70.14
	(%)	0.25	0.71	0.08	0.01	0.05	0.05				
AA	(N)	818	756	76	20	39	52	1895	0.3989	13.17	60.38
	(%)	0.43	0.70	0.07	0.02	0.04	0.05				
MA	(N)	151	260	27	2	8	17	491	0.5295	15.68	67.72
	(%)	0.31	0.76	0.08	0.01	0.02	0.05				
PR	(N)	27	34	7	0	2	1	79	0.4304	12.91	60.10
	(%)	0.34	0.65	0.13	0.0	0.04	0.02				
OL	(N)	40	57	5	0	0	2	107	0.5327	15.21	67.92
	(%)	0.37	0.85	0.07	0.0	0.0	0.03				
OR	(N)	49	107	6	0	3	5	176	0.6080	18.35	90.59
	(%)	0.28	0.84	0.05	0.0	0.02	0.04				
WE	(N)	725	1698	77	15	43	106	2798	0.6069	18.40	89.53
	(%)	0.26	0.82	0.04	0.01	0.02	0.05				
WC	(N)	901	2188	104	19	70	150	3589	0.6096	18.19	87.91
	(%)	0.25	0.81	0.04	0.01	0.03	0.06				
WS	(N)	896	2166	109	17	77	130	3557	0.6089	18.38	86.32
	(%)	0.25	0.81	0.04	0.01	0.03	0.05				
WW	(N)	538	1176	52	8	37	68	1958	0.6006	17.32	86.65
	(%)	0.27	0.83	0.04	0.01	0.03	0.05				
TOT	(N)	4190	8537	473	82	286	537	14828	0.5757	17.36	83.01
	(%)	0.28	0.80	0.04	0.01	0.03	0.05				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

ITEM RESPONSE PATTERNS AND STATISTICS
ITEM PN -26 CONTINUED

GROUP		RESPONSE 6	7	8	9	10	N	P	MS	MT
AI	(N)	5	1	5	0	3	178	0.5337	15.66	70.14
	(%)	0.04	0.01	0.04	0.0	0.02				
AA	(N)	49	29	19	14	20	1895	0.3989	13.17	60.38
	(%)	0.05	0.03	0.02	0.01	0.02				
MA	(N)	10	3	3	3	6	491	0.5295	15.68	67.72
	(%)	0.03	0.01	0.01	0.01	0.02				
PR	(N)	3	2	0	0	3	79	0.4304	12.91	60.10
	(%)	0.06	0.04	0.0	0.0	0.06				
CL	(N)	1	1	0	0	1	107	0.5327	15.21	67.92
	(%)	0.01	0.01	0.0	0.0	0.01				
OR	(N)	2	0	3	0	1	176	0.6080	18.35	90.59
	(%)	0.02	0.0	0.02	0.0	0.01				
WE	(N)	47	21	28	11	26	2798	0.6069	18.40	89.53
	(%)	0.02	0.01	0.01	0.01	0.01				
WC	(N)	50	28	24	24	29	3589	0.6096	18.19	87.91
	(%)	0.02	0.01	0.01	0.01	0.01				
WS	(N)	70	22	22	17	31	3557	0.6089	18.38	86.32
	(%)	0.03	0.01	0.01	0.01	0.01				
WW	(N)	23	18	10	9	19	1958	0.6006	17.32	86.65
	(%)	0.02	0.01	0.01	0.01	0.01				
TOT	(N)	260	125	114	78	139	14828	0.5757	17.36	83.01
	(%)	0.02	0.01	0.01	0.01	0.01				

% NR = NR/(TOTAL N)　　% RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-42

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM PN -27

GROUP		RESPONSE NR	1	2	3	4	5	N	P	MS	MT
AI	(N)	67	0	3	3	1	7	178	0.4326	15.66	70.14
	(%)	0.38	0.0	0.03	0.03	0.01	0.06				
AA	(N)	1004	13	18	31	28	43	1895	0.3182	13.17	60.38
	(%)	0.53	0.01	0.02	0.03	0.03	0.05				
MA	(N)	218	2	5	9	5	11	491	0.4012	15.68	67.72
	(%)	0.44	0.01	0.02	0.03	0.02	0.04				
PR	(N)	47	0	0	1	2	1	79	0.2532	12.91	60.10
	(%)	0.59	0.0	0.0	0.03	0.06	0.03				
OL	(N)	43	1	2	1	2	3	107	0.4112	15.21	67.92
	(%)	0.40	0.02	0.03	0.02	0.03	0.05				
OR	(N)	59	0	3	2	2	2	176	0.5398	18.35	90.59
	(%)	0.34	0.0	0.03	0.02	0.02	0.02				
WE	(N)	954	11	12	31	39	47	2798	0.5375	18.40	89.53
	(%)	0.34	0.01	0.01	0.02	0.02	0.03				
WC	(N)	1216	20	17	37	43	63	3589	0.5372	18.19	87.91
	(%)	0.34	0.01	0.01	0.02	0.02	0.03				
WS	(N)	1178	13	23	44	51	76	3557	0.5336	18.38	86.32
	(%)	0.33	0.01	0.01	0.02	0.02	0.03				
WW	(N)	729	9	9	14	19	58	1958	0.4954	17.32	86.65
	(%)	0.37	0.01	0.01	0.01	0.02	0.05				
TOT	(N)	5515	69	92	173	192	311	14828	0.4947	17.36	83.01
	(%)	0.37	0.01	0.01	0.02	0.02	0.03				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

ITEM RESPONSE PATTERNS AND STATISTICS
ITEM PN -27 CONTINUED

		RESPONSE								
GROUP		6	7	8	9	10*	N	P	MS	MT
AI	(N)	3	3	7	7	77	178	0.4326	15.66	70.14
	(%)	0.03	0.03	0.06	0.06	0.69				
AA	(N)	26	13	54	59	603	1895	0.3182	13.17	60.38
	(%)	0.03	0.01	0.06	0.07	0.68				
MA	(N)	11	4	11	17	197	491	0.4012	15.68	67.72
	(%)	0.04	0.01	0.04	0.06	0.72				
PR	(N)	1	1	5	1	20	79	0.2532	12.91	60.10
	(%)	0.03	0.03	0.16	0.03	0.63				
CL	(N)	2	1	5	3	44	107	0.4112	15.21	67.92
	(%)	0.03	0.02	0.08	0.05	0.69				
CR	(N)	0	1	8	4	95	176	0.5398	18.35	90.59
	(%)	0.0	0.01	0.07	0.03	0.81				
WE	(N)	29	15	68	87	1504	2798	0.5375	18.40	89.53
	(%)	0.02	0.01	0.04	0.05	0.82				
WC	(N)	40	29	88	108	1928	3589	0.5372	18.19	87.91
	(%)	0.02	0.01	0.04	0.05	0.81				
WS	(N)	51	29	92	102	1898	3557	0.5336	18.38	86.32
	(%)	0.02	0.01	0.04	0.04	0.80				
WW	(N)	22	17	57	54	970	1958	0.4954	17.32	86.65
	(%)	0.02	0.01	0.05	0.04	0.79				
TOT	(N)	185	113	393	442	7336	14828	0.4947	17.36	83.01
	(%)	0.02	0.01	0.04	0.05	0.79				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-43

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM PN -28

GROUP		RESPONSE									
		NR	1	2	3	4*	5	N	P	MS	MT
AI	(N)	71	3	5	4	75	8	178	0.4213	15.66	70.14
	(%)	0.40	0.03	0.05	0.04	0.70	0.07				
AA	(N)	1030	37	37	45	644	26	1895	0.3398	13.17	60.38
	(%)	0.54	0.04	0.04	0.05	0.74	0.03				
MA	(N)	215	2	18	12	217	6	491	0.4420	15.68	67.72
	(%)	0.44	0.01	0.07	0.04	0.79	0.02				
PR	(N)	45	2	4	4	18	1	79	0.2278	12.91	60.10
	(%)	0.57	0.06	0.12	0.12	0.53	0.03				
CL	(N)	41	4	4	3	46	0	107	0.4299	15.21	67.92
	(%)	0.38	0.06	0.06	0.05	0.70	0.0				
CR	(N)	65	0	7	4	92	3	176	0.5227	18.35	90.59
	(%)	0.37	0.0	0.06	0.04	0.83	0.03				
WE	(N)	983	36	62	70	1499	53	2798	0.5357	18.40	89.53
	(%)	0.35	0.02	0.03	0.04	0.83	0.03				
WC	(N)	1237	44	88	93	1948	69	3589	0.5428	18.19	87.91
	(%)	0.34	0.02	0.04	0.04	0.83	0.03				
WS	(N)	1255	52	102	102	1856	70	3557	0.5218	18.38	86.32
	(%)	0.35	0.02	0.04	0.04	0.81	0.03				
WW	(N)	725	22	59	54	995	36	1958	0.5082	17.32	86.65
	(%)	0.37	0.02	0.05	0.04	0.81	0.03				
TOT	(N)	5667	202	386	391	7392	272	14828	0.4984	17.36	83.01
	(%)	0.38	0.02	0.04	0.04	0.81	0.03				

% NR = NR/(TOTAL N) % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

ITEM RESPONSE PATTERNS AND STATISTICS
ITEM PN -28 CONTINUED

		RESPONSE								
GROUP		6	7	8	9	10	N	P	MS	MT
AI	(N)	1	5	1	3	2	178	0.4213	15.66	70.14
	(%)	0.01	0.05	0.01	0.03	0.02				
AA	(N)	22	16	15	12	8	1895	0.3398	13.17	60.38
	(%)	0.03	0.02	0.02	0.01	0.01				
MA	(N)	7	5	3	0	5	491	0.4420	15.68	67.72
	(%)	0.03	0.02	0.01	0.0	0.02				
PR	(N)	2	0	2	0	1	79	0.2278	12.91	60.10
	(%)	0.06	0.0	0.06	0.0	0.03				
CL	(N)	2	4	2	1	0	107	0.4299	15.21	67.92
	(%)	0.03	0.06	0.03	0.02	0.0				
CR	(N)	2	2	1	0	0	176	0.5227	18.35	90.59
	(%)	0.02	0.02	0.01	0.0	0.0				
WE	(N)	22	30	12	18	12	2798	0.5357	18.40	89.53
	(%)	0.01	0.02	0.01	0.01	0.01				
WC	(N)	19	38	13	26	12	3589	0.5428	18.19	87.91
	(%)	0.01	0.02	0.01	0.01	0.01				
WS	(N)	26	29	21	24	20	3557	0.5218	18.38	86.32
	(%)	0.01	0.01	0.01	0.01	0.01				
WW	(N)	18	12	7	14	16	1958	0.5082	17.32	86.65
	(%)	0.01	0.01	0.01	0.01	0.01				
TOT	(N)	121	141	77	98	76	14828	0.4984	17.36	83.01
	(%)	0.01	0.02	0.01	0.01	0.01				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-44

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM PN -29

GROUP		NR	RESPONSE 1	2	3	4	5	N	P	MS	MT
AI	(N)	67	4	1	2	8	6	178	0.4663	15.66	70.14
	(%)	0.38	0.04	0.01	0.02	0.07	0.05				
AA	(N)	1002	17	17	40	52	24	1895	0.3493	13.17	60.38
	(%)	0.53	0.02	0.02	0.04	0.06	0.03				
MA	(N)	206	3	5	7	14	4	491	0.4766	15.68	67.72
	(%)	0.42	0.01	0.02	0.02	0.05	0.01				
PR	(N)	37	2	0	3	3	2	79	0.3418	12.91	60.10
	(%)	0.47	0.05	0.0	0.07	0.07	0.05				
CL	(N)	49	0	4	4	3	2	107	0.3364	15.21	67.92
	(%)	0.46	0.0	0.07	0.07	0.05	0.03				
CR	(N)	66	2	4	5	6	3	176	0.4886	18.35	90.59
	(%)	0.38	0.02	0.04	0.05	0.05	0.03				
WE	(N)	882	14	22	49	79	37	2798	0.5843	18.40	89.53
	(%)	0.32	0.01	0.01	0.03	0.04	0.02				
WC	(N)	1183	22	31	56	100	57	3589	0.5678	18.39	87.91
	(%)	0.33	0.01	0.01	0.02	0.04	0.02				
WS	(N)	1143	18	25	48	115	69	3557	0.5715	18.38	86.32
	(%)	0.32	0.01	0.01	0.02	0.05	0.03				
WW	(N)	709	19	19	33	55	38	1958	0.5250	17.32	86.65
	(%)	0.36	0.02	0.02	0.03	0.04	0.03				
TOT	(N)	5344	101	128	247	435	242	14828	0.5302	17.36	83.01
	(%)	0.36	0.01	0.01	0.03	0.05	0.03				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

ITEM RESPONSE PATTERNS AND STATISTICS
ITEM PN -29 CONTINUED

GROUP		6*	7	8	9	10	N	P	MS	MT
		RESPONSE								
AI	(N)	83	4	1	1	1	178	0.4663	15.66	70.14
	(%)	0.75	0.04	0.01	0.01	0.01				
AA	(N)	662	38	18	18	4	1895	0.3493	13.17	60.38
	(%)	0.74	0.04	0.02	0.02	0.00				
MA	(N)	234	4	4	8	1	491	0.4766	15.68	67.72
	(%)	0.82	0.01	0.01	0.03	0.00				
PR	(N)	27	1	3	1	0	79	0.3418	12.91	60.10
	(%)	0.64	0.02	0.07	0.02	0.0				
CL	(N)	36	2	3	3	1	107	0.3364	15.21	67.92
	(%)	0.62	0.03	0.05	0.05	0.02				
OR	(N)	86	3	0	1	0	176	0.4886	18.35	90.59
	(%)	0.78	0.03	0.0	0.01	0.0				
WE	(N)	1635	38	20	21	0	2798	0.5843	18.40	89.53
	(%)	0.85	0.02	0.01	0.01	0.0				
WC	(N)	2038	40	28	27	5	3589	0.5678	18.19	87.91
	(%)	0.85	0.02	0.01	0.01	0.00				
WS	(N)	2033	45	33	25	3	3557	0.5715	18.38	86.32
	(%)	0.84	0.02	0.01	0.01	0.00				
WW	(N)	1028	30	16	9	2	1958	0.5250	17.32	86.65
	(%)	0.82	0.02	0.01	0.01	0.00				
TOT	(N)	7862	205	126	114	17	14828	0.5302	17.36	83.01
	(%)	0.83	0.02	0.01	0.01	0.00				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-45

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM PN -30

GROUP		RESPONSE NR	1	2	3	4	5	N	P	MS	MT
AI	(N)	66	1	2	3	6	2	178	0.5000	15.66	70.14
	(%)	0.37	0.01	0.02	0.03	0.05	0.02				
AA	(N)	958	6	16	25	22	33	1895	0.4058	13.17	60.38
	(%)	0.51	0.01	0.02	0.03	0.02	0.04				
MA	(N)	197	1	12	4	11	8	491	0.4929	15.68	67.72
	(%)	0.40	0.00	0.04	0.01	0.04	0.03				
PP	(N)	40	0	2	1	2	3	79	0.3671	12.91	60.10
	(%)	0.51	0.0	0.05	0.03	0.05	0.08				
CL	(N)	37	1	4	2	4	2	107	0.5140	15.21	67.92
	(%)	0.35	0.01	0.06	0.03	0.06	0.03				
OR	(N)	55	0	1	1	3	1	176	0.6250	18.35	90.59
	(%)	0.31	0.0	0.01	0.01	0.02	0.01				
WE	(N)	874	5	23	24	32	44	2798	0.6179	18.40	89.53
	(%)	0.31	0.00	0.01	0.01	0.02	0.02				
WC	(N)	1169	10	26	37	43	62	3589	0.5943	18.19	87.91
	(%)	0.33	0.00	0.01	0.02	0.02	0.03				
WS	(N)	1158	4	30	35	58	50	3557	0.5946	18.38	86.32
	(%)	0.33	0.00	0.01	0.01	0.02	0.02				
WW	(N)	703	5	23	27	26	32	1958	0.5577	17.32	86.65
	(%)	0.36	0.00	0.02	0.02	0.02	0.03				
TOT	(N)	5257	33	139	159	207	237	14828	0.5640	17.36	83.01
	(%)	0.35	0.00	0.01	0.02	0.02	0.02				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

ITEM RESPONSE PATTERNS AND STATISTICS
ITEM PN -30 CONTINUED

GROUP		6	7*	8	9	10	N	P	MS	MT
		RESPONSE								
AI	(N)	3	89	2	4	0	178	0.5000	15.66	70.14
	(%)	0.03	0.79	0.02	0.04	0.0				
AA	(N)	15	769	10	22	16	1895	0.4058	13.17	60.38
	(%)	0.02	0.82	0.01	0.02	0.02				
MA	(N)	2	242	2	8	3	491	0.4929	15.68	67.72
	(%)	0.01	0.82	0.01	0.03	0.01				
PR	(N)	0	29	0	1	1	79	0.3671	12.91	60.10
	(%)	0.0	0.74	0.0	0.03	0.03				
CL	(N)	1	55	0	0	1	107	0.5140	15.21	67.92
	(%)	0.01	0.79	0.0	0.0	0.01				
OR	(N)	0	110	2	3	0	176	0.6250	18.35	90.59
	(%)	0.0	0.91	0.02	0.02	0.0				
WE	(N)	19	1729	5	26	16	2798	0.6179	18.40	89.53
	(%)	0.01	0.90	0.00	0.01	0.01				
WC	(N)	29	2133	11	50	17	3589	0.5943	18.19	87.91
	(%)	0.01	0.88	0.00	0.02	0.01				
WS	(N)	23	2115	12	40	32	3557	0.5946	18.38	86.32
	(%)	0.01	0.88	0.01	0.02	0.01				
WW	(N)	12	1092	5	14	19	1958	0.5577	17.32	86.65
	(%)	0.01	0.87	0.00	0.01	0.02				
TOT	(N)	104	8363	49	168	105	14828	0.5640	17.36	83.01
	(%)	0.01	0.87	0.01	0.02	0.01				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-46

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM R - 1

GROUP		NR	1	2	3	4*	5	N	P	MS	MT
		RESPONSE									
AI	(N)	0	26	20	6	121	5	178	0.6798	8.86	70.14
	(%)	0.0	0.15	0.11	0.03	0.68	0.03				
AA	(N)	6	377	117	34	1301	57	1895	0.6865	8.00	60.38
	(%)	0.00	0.20	0.06	0.02	0.69	0.03				
MA	(N)	0	94	42	10	337	7	491	0.6864	8.37	67.72
	(%)	0.0	0.19	0.09	0.02	0.69	0.01				
PR	(N)	0	11	10	2	54	2	79	0.6835	8.18	60.10
	(%)	0.0	0.14	0.13	0.03	0.68	0.03				
CL	(N)	1	12	14	2	73	5	107	0.6822	8.45	67.92
	(%)	0.01	0.11	0.13	0.02	0.69	0.05				
CR	(N)	0	17	12	3	141	3	176	0.8011	11.83	90.59
	(%)	0.0	0.10	0.07	0.02	0.80	0.02				
WE	(N)	2	138	185	17	2442	13	2798	0.8728	12.[illegible]	89.53
	(%)	0.00	0.05	0.07	0.01	0.87	0.00				
WC	(N)	3	213	271	26	3060	14	3589	0.8526	11[illegible]	87.91
	(%)	0.00	0.06	0.08	0.01	0.85	0.00				
WS	(N)	0	257	247	22	3009	22	3557	0.8459	11.93	86.32
	(%)	0.0	0.07	0.07	0.01	0.85	0.01				
WW	(N)	1	122	137	21	1662	15	1958	0.8488	12.18	86.65
	(%)	0.00	0.06	0.07	0.01	0.85	0.01				
TOT	(N)	13	1267	1055	143	12200	143	14828	0.8228	11.36	83.01
	(%)	0.00	0.09	0.07	0.01	0.82	0.01				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-47

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM R - 2

GROUP		NR	1	2	3	4	5*	N	P	MS	MT
		RESPONSE									
AI	(N)	1	44	12	9	14	98	178	0.5506	8.86	70.14
	(%)	0.01	0.25	0.07	0.05	0.08	0.55				
AA	(N)	20	481	84	68	63	1176	1895	0.6206	8.00	60.38
	(%)	0.01	0.26	0.04	0.04	0.03	0.63				
MA	(N)	1	103	23	23	15	325	491	0.6619	8.37	67.72
	(%)	0.00	0.21	0.05	0.05	0.03	0.66				
PR	(N)	0	14	7	3	4	51	79	0.6456	8.18	60.10
	(%)	0.0	0.18	0.09	0.04	0.05	0.65				
CL	(N)	4	23	8	8	1	63	107	0.5888	8.45	67.92
	(%)	0.04	0.22	0.08	0.08	0.01	0.61				
CR	(N)	2	32	3	6	2	131	176	0.7443	11.83	90.59
	(%)	0.01	0.18	0.02	0.03	0.01	0.75				
WE	(N)	27	399	89	39	27	2216	2798	0.7920	12.43	89.53
	(%)	0.01	0.14	0.03	0.01	0.01	0.80				
WC	(N)	35	559	141	66	66	2720	3589	0.7579	11.94	87.91
	(%)	0.01	0.16	0.04	0.02	0.02	0.77				
WS	(N)	30	556	123	79	56	2713	3557	0.7627	11.93	86.32
	(%)	0.01	0.16	0.03	0.02	0.02	0.77				
WW	(N)	13	287	76	24	23	1535	1958	0.7840	12.18	86.65
	(%)	0.01	0.15	0.04	0.01	0.01	0.79				
TOT	(N)	133	2498	566	325	271	11028	14828	0.7437	11.36	83.01
	(%)	0.01	0.17	0.04	0.02	0.02	0.75				

% NR = NR/(TOTAL N)　　% RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-48
ITEM RESPONSE PATTERNS AND STATISTICS
ITEM R - 3

GROUP		NR	1	2*	3	4	5	N	P	MS	MT
		RESPONSE									
AI	(N)	3	11	131	7	16	10	178	0.7360	8.86	70.14
	(%)	0.02	0.06	0.75	0.04	0.09	0.06				
AA	(N)	25	97	1454	69	207	40	1895	0.7673	8.00	60.38
	(%)	0.01	0.05	0.78	0.04	0.11	0.02				
MA	(N)	6	16	384	22	47	15	491	0.7821	8.37	67.72
	(%)	0.01	0.03	0.79	0.05	0.10	0.03				
PR	(N)	1	1	62	6	6	3	79	0.7848	8.18	60.10
	(%)	0.01	0.01	0.79	0.08	0.08	0.04				
CL	(N)	5	3	79	5	12	3	107	0.7383	8.45	67.92
	(%)	0.05	0.03	0.77	0.05	0.12	0.03				
OR	(N)	1	2	161	5	7	0	176	0.9148	11.83	90.59
	(%)	0.01	0.01	0.92	0.03	0.04	0.0				
WE	(N)	12	57	2522	64	119	23	2798	0.9014	12.43	89.53
	(%)	0.00	0.02	0.91	0.02	0.04	0.01				
WC	(N)	14	104	3174	59	199	37	3589	0.8844	11.94	87.91
	(%)	0.00	0.03	0.89	0.02	0.06	0.01				
WS	(N)	19	85	3179	64	182	28	3557	0.8937	11.93	86.32
	(%)	0.01	0.02	0.90	0.02	0.05	0.01				
WW	(N)	7	72	1707	41	109	22	1958	0.8718	12.18	86.65
	(%)	0.00	0.04	0.87	0.02	0.06	0.01				
TOT	(N)	93	448	12853	342	904	181	14828	0.8668	11.36	83.01
	(%)	0.01	0.03	0.87	0.02	0.06	0.01				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-49

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM R - 4

GROUP		RESPONSE NR	1	2	3*	4	5	N	P	MS	MT
AI	(N)	1	25	16	103	17	16	178	0.5787	8.86	70.14
	(%)	0.01	0.14	0.09	0.58	0.10	0.09				
AA	(N)	7	257	205	1126	123	174	1895	0.5942	8.00	60.38
	(%)	0.00	0.14	0.11	0.60	0.07	0.09				
MA	(N)	2	78	43	264	31	72	491	0.5377	8.37	67.72
	(%)	0.00	0.16	0.09	0.54	0.06	0.15				
PR	(N)	1	14	9	42	7	6	79	0.5316	8.18	60.10
	(%)	0.01	0.18	0.12	0.54	0.09	0.08				
CL	(N)	1	14	19	59	4	10	107	0.5514	8.45	67.92
	(%)	0.01	0.13	0.18	0.56	0.04	0.09				
OR	(N)	0	12	8	126	16	14	176	0.7159	11.83	90.59
	(%)	0.0	0.07	0.05	0.72	0.09	0.08				
WE	(N)	5	287	152	2066	126	161	2798	0.7384	12.43	89.53
	(%)	0.00	0.10	0.05	0.74	0.05	0.06				
WC	(N)	4	401	219	2507	183	273	3589	0.6985	11.94	87.91
	(%)	0.00	0.11	0.06	0.70	0.05	0.08				
WS	(N)	6	408	226	2498	165	254	3557	0.7023	11.93	86.32
	(%)	0.00	0.11	0.06	0.70	0.05	0.07				
WW	(N)	4	245	112	1381	84	132	1958	0.7053	12.18	86.65
	(%)	0.00	0.13	0.06	0.71	0.04	0.07				
TOT	(N)	31	1741	1009	10172	756	1112	14828	0.6860	11.36	83.01
	(%)	0.00	0.12	0.07	0.69	0.05	0.08				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-50
ITEM RESPONSE PATTERNS AND STATISTICS
ITEM R - 5

GROUP		NR	1*	2	3	4	5	N	P	MS	MT
		RESPONSE									
AI	(N)	1	88	49	17	18	5	178	0.4944	8.86	70.14
	(%)	0.01	0.50	0.28	0.10	0.10	0.03				
AA	(N)	43	1120	327	132	150	120	1895	0.5910	8.00	60.38
	(%)	0.02	0.60	0.18	0.07	0.08	0.06				
MA	(N)	7	266	128	24	38	27	491	0.5418	8.37	67.72
	(%)	0.01	0.55	0.26	0.05	0.08	0.06				
PR	(N)	0	48	21	3	2	5	79	0.6076	8.18	60.10
	(%)	0.0	0.61	0.27	0.04	0.03	0.06				
CL	(N)	4	63	21	8	6	5	107	0.5888	8.45	67.92
	(%)	0.04	0.61	0.20	0.08	0.06	0.05				
CR	(N)	5	132	32	3	1	3	176	0.7500	11.83	90.59
	(%)	0.03	0.77	0.19	0.02	0.01	0.02				
WE	(N)	44	2072	478	81	92	30	2798	0.7405	12.43	89.53
	(%)	0.02	0.75	0.17	0.03	0.03	0.01				
WC	(N)	44	2581	624	147	118	73	3589	0.7191	11.94	87.91
	(%)	0.01	0.73	0.18	0.04	0.03	0.02				
WS	(N)	39	2618	580	138	115	67	3557	0.7360	11.93	86.22
	(%)	0.01	0.74	0.16	0.04	0.03	0.02				
WW	(N)	19	1435	314	89	71	30	1958	0.7329	12.18	86.65
	(%)	0.01	0.74	0.16	0.05	0.04	0.02				
TOT	(N)	206	10423	2574	642	611	365	14828	0.7029	11.36	83.01
	(%)	0.01	0.71	0.18	0.04	0.04	0.02				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-51

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM R - 6

GROUP		NR	1	2*	3	4	5	N	P	MS	MT
		RESPONSE									
AI	(N)	1	43	114	9	7	4	178	0.6404	8.86	70.14
	(%)	0.01	0.24	0.64	0.05	0.04	0.02				
AA	(N)	8	559	1059	104	96	66	1895	0.5588	8.00	60.38
	(%)	0.00	0.30	0.56	0.06	0.05	0.03				
MA	(N)	3	116	299	29	30	13	491	0.6090	8.37	67.72
	(%)	0.01	0.24	0.61	0.06	0.06	0.03				
PR	(N)	1	18	50	6	3	1	79	0.6329	8.18	60.10
	(%)	0.01	0.23	0.64	0.08	0.04	0.01				
OL	(N)	0	24	67	6	7	3	107	0.6262	8.45	67.92
	(%)	0.0	0.22	0.63	0.06	0.07	0.03				
CR	(N)	1	18	147	3	4	3	176	0.8352	11.83	90.59
	(%)	0.01	0.10	0.84	0.02	0.02	0.02				
WE	(N)	9	413	2270	47	50	8	2798	0.8113	12.43	89.53
	(%)	0.00	0.15	0.81	0.02	0.02	0.00				
WC	(N)	8	506	2885	77	90	21	3589	0.8038	11.94	87.91
	(%)	0.00	0.14	0.81	0.02	0.03	0.01				
WS	(N)	5	488	2879	79	75	31	3557	0.8094	11.93	86.32
	(%)	0.00	0.14	0.81	0.02	0.02	0.01				
WW	(N)	4	244	1596	56	42	16	1958	0.8151	12.18	86.65
	(%)	0.00	0.12	0.82	0.03	0.02	0.01				
TOT	(N)	40	2429	11366	416	404	166	14828	0.7665	11.36	83.01
	(%)	0.00	0.16	0.77	0.03	0.03	0.01				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-52

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM R - 7

		RESPONSE									
GROUP		NR	1	2	3	4	5*	N	P	MS	MT
AI	(N)	2	34	28	23	29	62	178	0.3483	8.86	70.14
	(%)	0.01	0.19	0.16	0.13	0.16	0.35				
AA	(N)	26	504	263	288	325	486	1895	0.2565	8.00	60.38
	(%)	0.01	0.27	0.14	0.15	0.17	0.26				
MA	(N)	4	100	56	69	98	163	491	0.3320	8.37	67.72
	(%)	0.01	0.21	0.11	0.14	0.20	0.33				
PR	(N)	0	17	13	16	10	23	79	0.2911	8.18	60.10
	(%)	0.0	0.22	0.16	0.20	0.13	0.29				
CL	(N)	2	33	8	14	13	37	107	0.3458	8.45	67.92
	(%)	0.02	0.31	0.08	0.13	0.12	0.35				
OR	(N)	1	34	15	19	15	92	176	0.5227	11.83	90.59
	(%)	0.01	0.19	0.09	0.11	0.09	0.53				
WE	(N)	19	457	196	208	382	1535	2798	0.5486	12.43	89.53
	(%)	0.01	0.16	0.07	0.07	0.14	0.55				
WC	(N)	21	591	271	276	507	1921	3589	0.5352	11.94	87.91
	(%)	0.01	0.17	0.08	0.08	0.14	0.54				
WS	(N)	20	630	278	245	561	1823	3557	0.5125	11.93	86.32
	(%)	0.01	0.18	0.08	0.07	0.16	0.52				
WW	(N)	11	293	161	146	293	1054	1958	0.5383	12.18	86.65
	(%)	0.01	0.15	0.08	0.07	0.15	0.54				
TOT	(N)	106	2693	1289	1304	2233	7196	14828	0.4853	11.36	83.01
	(%)	0.01	0.18	0.09	0.09	0.15	0.49				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-53

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM R - 8

		RESPONSE									
GROUP		NR	1	2	3*	4	5	N	P	MS	MT
AI	(N)	4	21	16	67	21	49	178	0.3764	[illegible].86	70.14
	(%)	0.02	0.12	0.09	0.39	0.12	0.28				
AA	(N)	17	347	169	570	291	498	1895	0.3008	8.00	60.38
	(%)	0.01	0.18	0.09	0.30	0.15	0.27				
MA	(N)	1	76	50	178	47	138	491	0.3625	8.37	67.72
	(%)	0.00	0.16	0.10	0.36	0.10	0.28				
PR	(N)	1	15	7	22	9	25	79	0.2785	8.18	60.10
	(%)	0.01	0.19	0.09	0.28	0.12	0.32				
OL	(N)	0	16	12	42	15	22	107	0.3925	8.45	67.92
	(%)	0.0	0.15	0.11	0.39	0.14	0.21				
OR	(N)	0	12	7	118	8	31	176	0.6705	11.83	90.59
	(%)	0.0	0.07	0.04	0.67	0.05	0.18				
WE	(N)	18	267	124	1764	181	443	2798	0.6305	12.43	89.53
	(%)	0.01	0.10	0.04	0.63	0.07	0.16				
WC	(N)	20	400	160	2147	226	634	3589	0.5982	11.94	87.91
	(%)	0.01	0.11	0.04	0.60	0.06	0.18				
WS	(N)	16	343	182	2110	251	655	3557	0.5932	11.93	86.32
	(%)	0.00	0.10	0.05	0.60	0.07	0.18				
WW	(N)	15	177	95	1189	118	365	1958	0.6067	12.18	86.65
	(%)	0.01	0.09	0.05	0.61	0.06	0.19				
TOT	(N)	92	1674	822	8206	1167	2860	14828	0.5534	11.36	83.01
	(%)	0.01	0.11	0.06	0.56	0.08	0.19				

% NR = NR/(TOTAL N) % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-54
ITEM RESPONSE PATTERNS AND STATISTICS
ITEM R - 9

		RESPONSE									
GROUP		NR	1*	2	3	4	5	N	P	MS	MT
AI	(N)	4	73	12	13	12	64	178	0.4101	8.86	70.14
	(%)	0.02	0.42	0.07	0.07	0.07	0.37				
AA	(N)	27	721	147	150	187	660	1895	0.3805	8.00	60.38
	(%)	0.01	0.39	0.08	0.08	0.10	0.35				
MA	(N)	6	143	51	33	36	221	491	0.2912	8.37	67.72
	(%)	0.01	0.29	0.11	0.07	0.07	0.46				
PR	(N)	1	23	8	4	8	35	79	0.2911	8.18	60.10
	(%)	0.01	0.29	0.10	0.05	0.10	0.45				
CL	(N)	2	38	9	10	6	42	107	0.3551	8.45	67.92
	(%)	0.02	0.36	0.09	0.10	0.06	0.40				
OR	(N)	5	92	13	4	6	56	176	0.5227	11.83	90.59
	(%)	0.03	0.54	0.08	0.02	0.04	0.33				
WE	(N)	24	1733	119	88	112	721	2798	0.6194	12.43	89.53
	(%)	0.01	0.62	0.04	0.03	0.04	0.26				
WC	(N)	35	2071	167	101	148	1065	3589	0.5770	11.94	87.91
	(%)	0.01	0.58	0.05	0.03	0.04	0.30				
WS	(N)	35	1998	195	129	147	1053	3557	0.5617	11.93	86.32
	(%)	0.01	0.57	0.06	0.04	0.04	0.30				
WW	(N)	21	1054	140	53	60	630	1958	0.5383	12.18	86.65
	(%)	0.01	0.54	0.07	0.03	0.03	0.33				
TLT	(N)	160	7946	861	585	722	4547	14828	0.5359	11.36	83.01
	(%)	0.01	0.54	0.06	0.04	0.05	0.31				

% NR = NR/(TOTAL N)　　% RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-55

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM R -10

GROUP		RESPONSE NR	1	2	3*	4	5	N	P	MS	MT
AI	(N)	3	15	16	81	50	13	178	0.4551	8.86	70.14
	(%)	0.02	0.09	0.09	0.46	0.29	0.07				
AA	(N)	57	201	252	786	461	135	1895	0.4148	8.00	60.38
	(%)	0.03	0.11	0.14	0.43	0.25	0.07				
MA	(N)	10	52	59	195	144	30	491	0.3971	8.37	67.72
	(%)	0.02	0.11	0.12	0.41	0.30	0.06				
PR	(N)	5	9	4	34	20	7	79	0.4304	8.18	60.10
	(%)	0.06	0.12	0.05	0.46	0.27	0.09				
CL	(N)	3	8	12	44	32	8	107	0.4112	8.45	67.92
	(%)	0.03	0.08	0.12	0.42	0.31	0.08				
OR	(N)	3	13	10	109	39	2	176	0.6193	11.83	90.59
	(%)	0.02	0.08	0.06	0.63	0.23	0.01				
WE	(N)	37	212	188	1755	554	51	2798	0.6272	12.43	89.53
	(%)	0.01	0.08	0.07	0.64	0.20	0.02				
WC	(N)	40	305	337	2141	689	75	3589	0.5965	11.94	87.91
	(%)	0.01	0.09	0.09	0.60	0.19	0.02				
WS	(N)	41	348	305	2125	666	72	3557	0.5974	11.93	86.32
	(%)	0.01	0.10	0.09	0.60	0.19	0.02				
WH	(N)	41	181	146	1240	310	40	1958	0.6333	12.18	86.65
	(%)	0.02	0.09	0.08	0.65	0.16	0.02				
TOT	(N)	240	1344	1329	8510	2965	433	14828	0.5739	11.36	83.01
	(%)	0.02	0.09	0.09	0.58	0.20	0.03				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE F-56

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM R -11

GROUP		RESPONSE NR	1	2*	3	4	5	N	P	MS	MT
AI	(N)	4	14	66	38	16	40	178	0.3708	8.86	70.14
	(%)	0.02	0.08	0.38	0.22	0.09	0.23				
AA	(N)	52	159	573	366	183	559	1895	0.3024	8.00	60.38
	(%)	0.03	0.09	0.31	0.20	0.10	0.30				
MA	(N)	5	31	149	68	49	186	491	0.3035	8.37	67.72
	(%)	0.01	0.06	0.31	0.14	0.10	0.39				
PR	(N)	4	6	26	16	4	23	79	0.3291	8.18	60.10
	(%)	0.05	0.08	0.35	0.21	0.05	0.31				
OL	(N)	3	8	36	23	11	26	107	0.3364	8.45	67.92
	(%)	0.03	0.08	0.35	0.22	0.11	0.25				
OR	(N)	3	9	96	15	16	37	176	0.5455	11.83	90.59
	(%)	0.02	0.05	0.55	0.09	0.09	0.21				
WE	(N)	24	96	1578	272	121	706	2798	0.5640	12.43	89.53
	(%)	0.01	0.03	0.57	0.10	0.04	0.25				
WC	(N)	20	155	1813	306	198	1095	3589	0.5052	11.94	87.91
	(%)	0.01	0.04	0.51	0.09	0.06	0.31				
WS	(N)	18	160	1778	287	169	1135	3557	0.4999	11.93	86.32
	(%)	0.01	0.05	0.50	0.08	0.05	0.32				
WW	(N)	23	81	1038	148	107	561	1958	0.5301	12.18	86.65
	(%)	0.01	0.04	0.54	0.08	0.06	0.29				
TOT	(N)	156	719	7153	1549	874	4370	14828	0.4824	11.36	83.01
	(%)	0.01	0.05	0.49	0.11	0.06	0.30				

% NR = NR/(TOTAL N) % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-57
ITEM RESPONSE PATTERNS AND STATISTICS
ITEM R -12

GROUP		RESPONSE NR	1	2	3	4	5*	N	P	MS	MT
AI	(N)	6	14	16	8	9	125	178	0.7022	8.86	70.14
	(%)	0.03	0.08	0.09	0.05	0.05	0.73				
AA	(N)	82	184	151	78	122	1275	1895	0.6728	8.00	60.38
	(%)	0.04	0.10	0.08	0.04	0.07	0.70				
MA	(N)	9	56	30	18	30	347	491	0.7067	8.37	67.72
	(%)	0.02	0.12	0.06	0.04	0.06	0.72				
PR	(N)	3	8	7	3	5	53	79	0.6709	8.18	60.10
	(%)	0.04	0.11	0.09	0.04	0.07	0.70				
OL	(N)	7	13	3	3	6	75	107	0.7009	8.45	67.92
	(%)	0.07	0.13	0.03	0.03	0.06	0.75				
OR	(N)	3	12	5	2	9	145	176	0.8239	11.83	90.59
	(%)	0.02	0.07	0.03	0.01	0.05	0.84				
WE	(N)	29	188	47	23	92	2418	2798	0.8642	12.43	89.53
	(%)	0.01	0.07	0.02	0.01	0.03	0.87				
WC	(N)	41	270	85	54	147	2990	3589	0.8331	11.94	87.91
	(%)	0.01	0.08	0.02	0.02	0.04	0.84				
WS	(N)	34	239	82	46	139	3017	3557	0.8482	11.93	86.32
	(%)	0.01	0.07	0.02	0.01	0.04	0.86				
WW	(N)	38	127	33	20	102	1638	1958	0.8366	12.18	86.65
	(%)	0.02	0.07	0.02	0.01	0.05	0.85				
TOT	(N)	252	1111	459	255	661	12083	14828	0.8149	11.36	83.01
	(%)	0.02	0.08	0.03	0.02	0.05	0.83				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-58

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM R -13

GROUP		NR	1	2*	3	4	5	N	P	MS	MT
		RESPONSE									
AI	(N)	10	17	76	19	13	43	178	0.4270	8.86	70.14
	(%)	0.06	0.10	0.45	0.11	0.08	0.26				
AA	(N)	118	269	640	282	131	452	1895	0.3377	8.00	60.38
	(%)	0.06	0.15	0.36	0.16	0.07	0.25				
MA	(N)	16	55	202	57	31	129	491	0.4114	8.37	67.72
	(%)	0.03	0.12	0.43	0.12	0.07	0.27				
PR	(N)	6	8	28	13	7	17	79	0.3544	8.18	60.10
	(%)	0.08	0.11	0.38	0.18	0.10	0.23				
CL	(N)	10	12	40	17	4	24	107	0.3738	8.45	67.92
	(%)	0.09	0.12	0.41	0.18	0.04	0.25				
CR	(N)	3	21	101	17	5	29	176	0.5739	11.83	90.59
	(%)	0.02	0.12	0.58	0.10	0.03	0.17				
WE	(N)	48	152	1813	155	68	561	2798	0.6480	12.43	89.53
	(%)	0.02	0.06	0.66	0.06	0.02	0.20				
WC	(N)	47	210	2326	251	93	660	3589	0.6481	11.94	87.91
	(%)	0.01	0.06	0.66	0.07	0.03	0.19				
WS	(N)	43	210	2254	244	109	697	3557	0.6337	11.93	86.32
	(%)	0.01	0.06	0.64	0.07	0.03	0.20				
WW	(N)	42	58	1310	124	59	325	1958	0.6691	12.18	86.65
	(%)	0.02	0.05	0.68	0.06	0.03	0.17				
TOT	(N)	343	1052	8790	1179	520	2937	14828	0.5928	11.36	83.01
	(%)	0.02	0.07	0.61	0.08	0.04	0.20				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-59

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM R -14

GROUP		RESPONSE NR	1	2	3	4*	5	N	P	MS	MT
AI	(N)	8	8	59	21	37	45	178	0.2079	8.86	70.14
	(%)	0.04	0.05	0.35	0.12	0.22	0.26				
AA	(N)	219	122	575	188	332	457	1895	0.1752	8.00	60.38
	(%)	0.12	0.07	0.34	0.11	0.20	0.27				
MA	(N)	28	26	149	55	90	142	491	0.1833	8.37	67.72
	(%)	0.06	0.06	0.32	0.12	0.19	0.31				
PR	(N)	11	5	23	6	21	13	79	0.2658	8.18	60.10
	(%)	0.14	0.07	0.34	0.09	0.31	0.19				
OL	(N)	16	8	25	18	17	23	107	0.1589	8.45	67.92
	(%)	0.15	0.09	0.27	0.20	0.19	0.25				
OR	(N)	3	7	44	18	58	46	176	0.3295	11.83	90.59
	(%)	0.02	0.04	0.25	0.10	0.34	0.27				
WE	(N)	114	75	670	321	1046	571	2798	0.3738	12.43	89.53
	(%)	0.04	0.03	0.25	0.12	0.39	0.21				
WC	(N)	109	127	869	442	1126	914	3589	0.3137	11.94	87.91
	(%)	0.03	0.04	0.25	0.13	0.32	0.26				
WS	(N)	105	118	830	336	1107	1061	3557	0.3112	11.93	86.32
	(%)	0.03	0.03	0.24	0.10	0.32	0.31				
WW	(N)	80	53	414	209	691	511	1958	0.3529	12.18	86.65
	(%)	0.04	0.03	0.22	0.11	0.37	0.27				
TOT	(N)	692	549	3658	1614	4525	3783	14828	0.3052	11.36	83.01
	(%)	0.05	0.04	0.26	0.11	0.32	0.27				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-60
ITEM RESPONSE PATTERNS AND STATISTICS
ITEM R -15

GROUP		NR	1	2	3*	4	5	N	P	MS	MT
AI	(N)	10	55	42	26	27	18	178	0.1461	8.86	70.14
	(%)	0.06	0.33	0.25	0.15	0.16	0.11				
AA	(N)	306	598	271	260	287	170	1895	0.1372	8.00	60.38
	(%)	0.16	0.38	0.17	0.16	0.18	0.11				
MA	(N)	44	171	92	72	65	46	491	0.1466	8.37	67.72
	(%)	0.09	0.38	0.21	0.16	0.15	0.10				
PR	(N)	16	21	8	17	7	10	79	0.2152	8.18	60.10
	(%)	0.20	0.33	0.13	0.27	0.11	0.16				
OL	(N)	19	25	21	23	12	7	107	0.2150	8.45	67.92
	(%)	0.18	0.28	0.24	0.26	0.14	0.08				
OR	(N)	18	26	42	32	30	28	176	0.1818	11.83	90.59
	(%)	0.10	0.16	0.27	0.20	0.19	0.18				
WE	(N)	207	546	596	665	453	330	2798	0.2377	12.43	89.53
	(%)	0.07	0.21	0.23	0.26	0.17	0.13				
WC	(N)	203	834	749	816	573	412	3589	0.2274	11.94	87.91
	(%)	0.06	0.25	0.22	0.24	0.17	0.12				
WS	(N)	197	885	679	909	555	332	3557	0.2556	11.93	86.32
	(%)	0.06	0.26	0.20	0.27	0.17	0.10				
WW	(N)	143	429	370	476	326	209	1958	0.2431	12.18	86.65
	(%)	0.08	0.24	0.20	0.26	0.18	0.12				
TOT	(N)	1168	3590	2870	3296	2335	1562	14828	0.2223	11.36	83.01
	(%)	0.08	0.26	0.21	0.24	0.17	0.11				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-61
ITEM RESPONSE PATTERNS AND STATISTICS
ITEM R -16

GROUP		NR	1*	2	3	4	5	N	P	MS	MT
			RESPONSE								
AI	(N)	16	62	18	43	15	24	178	0.3483	8.86	70.14
	(%)	0.09	0.38	0.11	0.27	0.09	0.15				
AA	(N)	361	502	158	365	173	333	1895	0.2649	8.00	60.38
	(%)	0.19	0.33	0.10	0.24	0.11	0.22				
MA	(N)	49	126	40	96	71	108	491	0.2566	8.37	67.72
	(%)	0.10	0.29	0.09	0.22	0.16	0.24				
PR	(N)	21	20	4	8	7	19	79	0.2532	8.18	60.10
	(%)	0.27	0.34	0.07	0.14	0.12	0.33				
CL	(N)	29	27	8	15	11	17	107	0.2523	8.45	67.92
	(%)	0.27	0.35	0.10	0.19	0.14	0.22				
CR	(N)	13	76	8	30	11	38	176	0.4318	11.83	90.59
	(%)	0.07	0.47	0.05	0.18	0.07	0.23				
WE	(N)	167	1415	176	476	203	360	2798	0.5057	12.43	89.53
	(%)	0.06	0.54	0.07	0.18	0.08	0.14				
WC	(N)	159	1893	220	627	239	449	3589	0.5274	11.94	87.91
	(%)	0.04	0.55	0.06	0.18	0.07	0.13				
WS	(N)	190	1869	213	599	220	466	3557	0.5254	11.93	86.32
	(%)	0.05	0.56	0.06	0.18	0.07	0.14				
WW	(N)	120	1084	115	260	139	240	1958	0.5536	12.18	86.65
	(%)	0.06	0.59	0.06	0.14	0.08	0.13				
TOT	(N)	1125	7074	960	2519	1089	2054	14828	0.4771	11.36	83.01
	(%)	0.08	0.52	0.07	0.18	0.08	0.15				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-62

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM R -17

GROUP		RESPONSE NR	1	2*	3	4	5	N	P	MS	MT
AI	(N)	16	1	55	36	13	57	178	0.3090	8.86	70.14
	(%)	0.09	0.01	0.34	0.22	0.08	0.35				
AA	(N)	401	76	454	479	110	372	1895	0.2396	8.00	60.38
	(%)	0.21	0.05	0.30	0.32	0.07	0.25				
MA	(N)	61	14	133	126	27	129	491	0.2709	8.37	67.72
	(%)	0.12	0.03	0.31	0.29	0.06	0.30				
PR	(N)	20	1	23	20	2	13	79	0.2911	8.18	60.10
	(%)	0.25	0.02	0.39	0.34	0.03	0.22				
CL	(N)	25	4	30	20	2	26	107	0.2804	8.45	67.92
	(%)	0.23	0.05	0.37	0.24	0.02	0.32				
OR	(N)	11	2	71	41	6	45	176	0.4034	11.83	90.59
	(%)	0.06	0.01	0.43	0.25	0.04	0.27				
WE	(N)	185	27	1051	563	42	929	2798	0.3756	12.43	89.53
	(%)	0.07	0.01	0.40	0.22	0.02	0.36				
WC	(N)	178	39	1229	819	73	1249	3589	0.3424	11.94	87.91
	(%)	0.05	0.01	0.36	0.24	0.02	0.37				
WS	(N)	200	66	1255	809	72	1155	3557	0.3528	11.93	86.32
	(%)	0.06	0.02	0.37	0.24	0.02	0.34				
WW	(N)	136	34	739	402	41	606	1958	0.3774	12.18	86.65
	(%)	0.07	0.02	0.41	0.22	0.02	0.33				
TOT	(N)	1233	264	5040	3315	388	4581	14828	0.3399	11.36	83.01
	(%)	0.08	0.02	0.37	0.24	0.03	0.34				

% NR = NR/(TOTAL N)

% RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-63

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM R -18

		RESPONSE									
GROUP		NR	1	2*	3	4	5	N	P	MS	MT
AI	(N)	31	12	94	18	11	12	178	0.5281	8.86	70.14
	(%)	0.17	0.08	0.64	0.12	0.07	0.08				
AA	(N)	656	135	667	175	110	149	1895	0.3520	8.00	60.38
	(%)	0.35	0.11	0.54	0.14	0.09	0.12				
MA	(N)	114	41	210	55	33	37	491	0.4277	8.37	67.72
	(%)	0.23	0.11	0.56	0.15	0.09	0.10				
PR	(N)	33	4	24	6	5	7	79	0.3038	8.18	60.10
	(%)	0.42	0.09	0.52	0.13	0.11	0.15				
OL	(N)	33	7	45	5	7	10	107	0.4206	8.45	67.92
	(%)	0.31	0.09	0.61	0.07	0.09	0.14				
OR	(N)	23	10	119	10	6	8	176	0.6761	11.83	90.59
	(%)	0.13	0.07	0.78	0.07	0.04	0.05				
WE	(N)	363	179	1943	149	55	108	2798	0.6944	12.43	89.53
	(%)	0.13	0.07	0.80	0.06	0.02	0.04				
WC	(N)	369	267	2448	221	107	175	3589	0.6821	11.94	87.91
	(%)	0.10	0.08	0.76	0.07	0.03	0.05				
WS	(N)	424	258	2407	196	108	164	3557	0.6767	11.93	86.32
	(%)	0.12	0.08	0.77	0.06	0.03	0.05				
WW	(N)	240	132	1340	105	50	91	1958	0.6844	12.18	86.65
	(%)	0.12	0.08	0.78	0.06	0.03	0.05				
TOT	(N)	2286	1045	9297	940	492	761	14828	0.6270	11.36	83.01
	(%)	0.15	0.08	0.74	0.07	0.04	0.06				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-64

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM R -19

GROUP		RESPONSE									
		NR	1	2*	3	4	5	N	P	MS	MT
AI	(N)	25	10	49	56	34	4	178	0.2753	8.86	70.14
	(%)	0.14	0.07	0.32	0.37	0.22	0.03				
AA	(N)	654	62	339	519	257	61	1895	0.1789	8.00	60.38
	(%)	0.35	0.05	0.27	0.42	0.21	0.05				
MA	(N)	111	15	112	173	69	10	491	0.2281	8.37	67.72
	(%)	0.23	0.04	0.29	0.46	0.18	0.03				
PR	(N)	32	3	13	18	9	4	79	0.1646	8.18	60.10
	(%)	0.41	0.06	0.28	0.38	0.19	0.09				
CL	(N)	33	0	26	26	18	4	107	0.2430	8.45	67.92
	(%)	0.31	0.0	0.35	0.35	0.24	0.05				
CR	(N)	19	1	65	55	31	5	176	0.3693	11.83	90.59
	(%)	0.11	0.01	0.41	0.35	0.20	0.03				
WE	(N)	320	62	1209	751	423	32	2798	0.4321	12.43	89.53
	(%)	0.11	0.03	0.49	0.30	0.17	0.01				
WC	(N)	355	76	1405	1047	653	51	3589	0.3915	11.94	87.91
	(%)	0.10	0.02	0.43	0.32	0.20	0.02				
WS	(N)	379	79	1341	1119	593	46	3557	0.3770	11.93	86.32
	(%)	0.11	0.02	0.42	0.35	0.19	0.01				
WW	(N)	221	35	786	568	322	26	1958	0.4014	12.18	86.65
	(%)	0.11	0.02	0.45	0.33	0.19	0.01				
TOT	(N)	2149	343	5345	4332	2409	243	14828	0.3605	11.36	83.01
	(%)	0.14	0.03	0.42	0.34	0.19	0.02				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-65
ITEM RESPONSE PATTERNS AND STATISTICS
ITEM R -20

GROUP		NR	1	2	3*	4	5	N	P	MS	MT
		RESPONSE									
AI	(N)	37	18	16	49	23	35	178	0.2753	8.86	70.14
	(%)	0.21	0.13	0.11	0.35	0.16	0.25				
AA	(N)	785	175	150	312	159	311	1895	0.1646	8.00	60.38
	(%)	0.41	0.16	0.14	0.28	0.14	0.28				
MA	(N)	136	60	56	106	40	92	491	0.2159	8.37	67.72
	(%)	0.28	0.17	0.16	0.30	0.11	0.26				
PR	(N)	35	5	9	12	9	9	79	0.1519	8.18	60.10
	(%)	0.44	0.11	0.20	0.27	0.20	0.20				
CL	(N)	40	13	11	20	5	18	107	0.1869	8.45	67.92
	(%)	0.37	0.19	0.16	0.30	0.07	0.27				
DR	(N)	34	17	12	70	14	29	176	0.3977	11.83	90.59
	(%)	0.19	0.12	0.08	0.49	0.10	0.20				
WE	(N)	467	202	188	1256	227	457	2798	0.4489	12.43	89.53
	(%)	0.17	0.09	0.08	0.54	0.10	0.20				
WC	(N)	530	316	283	1585	292	581	3589	0.4416	11.94	87.91
	(%)	0.15	0.10	0.09	0.52	0.10	0.19				
WS	(N)	552	328	261	1533	271	612	3557	0.4310	11.93	86.32
	(%)	0.16	0.11	0.09	0.51	0.09	0.20				
WW	(N)	313	155	135	896	142	317	1958	0.4576	12.18	86.65
	(%)	0.16	0.09	0.08	0.54	0.09	0.19				
TOT	(N)	2929	1289	1121	5839	1182	2461	14828	0.3938	11.36	83.01
	(%)	0.20	0.11	0.09	0.49	0.10	0.21				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-66

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM LG - 1

GROUP		NR	1*	2	3	4	5	N	P	MS	MT
		RESPONSE									
AI	(N)	3	147	8	8	2	10	178	0.8258	14.61	70.14
	(%)	0.02	0.84	0.05	0.05	0.01	0.06				
AA	(N)	16	1517	103	79	69	108	1895	0.8005	13.10	60.38
	(%)	0.01	0.81	0.05	0.04	0.04	0.06				
MA	(N)	5	396	36	18	13	22	491	0.8065	14.09	67.72
	(%)	0.01	0.81	0.07	0.04	0.03	0.05				
PR	(N)	0	67	3	3	0	6	79	0.8481	12.80	60.10
	(%)	0.0	0.85	0.04	0.04	0.0	0.08				
CL	(N)	0	82	5	4	7	9	107	0.7664	13.84	67.92
	(%)	0.0	0.77	0.05	0.04	0.07	0.08				
OR	(N)	1	162	4	3	2	4	176	0.9205	18.68	90.59
	(%)	0.01	0.93	0.02	0.02	0.01	0.02				
WE	(N)	28	2569	48	50	41	61	2798	0.9182	18.46	89.53
	(%)	0.01	0.93	0.02	0.02	0.01	0.02				
WC	(N)	20	3323	89	48	35	72	3589	0.9259	18.19	87.91
	(%)	0.01	0.93	0.02	0.01	0.01	0.02				
WS	(N)	27	3209	102	85	58	76	3557	0.9022	17.54	86.32
	(%)	0.01	0.91	0.03	0.02	0.02	0.02				
WW	(N)	14	1800	45	34	23	42	1958	0.9193	17.88	86.65
	(%)	0.01	0.93	0.02	0.02	0.01	0.02				
TOT	(N)	114	13272	443	332	250	410	14828	0.8951	17.16	83.01
	(%)	0.01	0.90	0.03	0.02	0.02	0.03				

% NR = NR/(TOTAL N) % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-67

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM LG - 2

GROUP		RESPONSE NR	1	2	3	4	5*	N	P	MS	MT
AI	(N)	19	6	16	34	20	83	178	0.4663	14.61	70.14
	(%)	0.11	0.04	0.10	0.21	0.13	0.52				
AA	(N)	271	78	130	318	160	935	1895	0.4934	13.10	60.38
	(%)	0.14	0.05	0.08	0.20	0.10	0.58				
MA	(N)	58	16	30	99	41	246	491	0.5010	14.09	67.72
	(%)	0.12	0.04	0.07	0.23	0.09	0.57				
PR	(N)	19	2	7	11	4	36	79	0.4557	12.80	60.10
	(%)	0.24	0.03	0.12	0.18	0.07	0.60				
CL	(N)	21	3	5	16	5	57	107	0.5327	13.84	67.92
	(%)	0.20	0.03	0.06	0.19	0.06	0.66				
CR	(N)	28	3	3	15	11	116	176	0.6591	18.68	90.59
	(%)	0.16	0.02	0.02	0.10	0.07	0.78				
WE	(N)	326	35	93	235	128	1980	2798	0.7076	18.46	89.53
	(%)	0.12	0.01	0.04	0.10	0.05	0.80				
WC	(N)	401	55	157	386	206	2382	3589	0.6637	18.19	87.91
	(%)	0.11	0.02	0.05	0.12	0.06	0.75				
WS	(N)	398	65	158	400	226	2310	3557	0.6494	17.54	86.32
	(%)	0.11	0.02	0.05	0.13	0.07	0.73				
WH	(N)	250	35	84	185	119	1285	1958	0.6563	17.88	86.65
	(%)	0.13	0.02	0.05	0.11	0.07	0.75				
TOT	(N)	1791	298	683	1699	920	9430	14828	0.6360	17.16	83.01
	(%)	0.12	0.02	0.05	0.13	0.07	0.72				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-68
ITEM RESPONSE PATTERNS AND STATISTICS
ITEM LG - 3

GROUP		NR	1	2	3	4*	5	N	P	MS	MT
			RESPONSE								
AI	(N)	0	9	5	6	149	5	178	0.8371	14.61	70.14
	(%)	0.0	0.05	0.05	0.03	0.84	0.03				
AA	(N)	32	126	95	88	1422	129	1895	0.7504	13.10	60.38
	(%)	0.02	0.07	0.05	0.05	0.76	0.07				
MA	(N)	10	32	21	14	378	35	491	0.7699	14.09	67.72
	(%)	0.02	0.07	0.04	0.03	0.79	0.07				
PR	(N)	1	8	2	8	57	3	79	0.7215	12.80	60.10
	(%)	0.01	0.10	0.03	0.10	0.73	0.04				
OL	(N)	3	3	5	3	83	10	107	0.7757	13.84	67.92
	(%)	0.03	0.03	0.05	0.03	0.80	0.10				
OR	(N)	3	3	3	3	159	5	176	0.9034	18.68	90.59
	(%)	0.02	0.02	0.02	0.02	0.92	0.03				
WE	(N)	18	70	69	44	2525	71	2798	0.9024	13.46	89.53
	(%)	0.01	0.03	0.02	0.02	0.91	0.03				
WC	(N)	25	111	84	80	3176	111	3589	0.8849	18.19	87.91
	(%)	0.01	0.03	0.02	0.02	0.89	0.03				
WS	(N)	29	148	95	77	3090	118	3557	0.8687	17.54	86.32
	(%)	0.01	0.04	0.03	0.02	0.88	0.03				
WW	(N)	11	68	57	50	1718	54	1958	0.8774	17.88	86.65
	(%)	0.01	0.03	0.03	0.03	0.88	0.03				
TOT	(N)	132	578	440	373	12757	541	14828	0.8603	17.16	83.01
	(%)	0.01	0.04	0.03	0.03	0.87	0.04				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-69

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM LG - 4

GROUP		NR	1	2*	3	4	5	N	P	MS	MT
		RESPONSE									
AI	(N)	0	2	162	4	6	4	178	0.9101	14.61	70.14
	(%)	0.0	0.01	0.91	0.02	0.03	0.02				
AA	(N)	31	55	1568	82	90	66	1895	0.8274	13.10	60.38
	(%)	0.02	0.03	0.84	0.04	0.05	0.04				
MA	(N)	7	8	416	16	30	13	491	0.8473	14.09	67.72
	(%)	0.01	0.02	0.86	0.03	0.06	0.03				
PR	(N)	1	3	69	3	1	2	79	0.8734	12.80	60.10
	(%)	0.01	0.04	0.88	0.04	0.01	0.03				
CL	(N)	3	1	94	2	3	4	107	0.8785	13.84	67.92
	(%)	0.03	0.01	0.90	0.02	0.03	0.04				
DR	(N)	1	4	166	1	2	2	176	0.9432	18.68	90.59
	(%)	0.01	0.02	0.95	0.01	0.01	0.01				
WE	(N)	29	22	2678	31	25	12	2798	0.9571	18.46	89.53
	(%)	0.01	0.01	0.97	0.01	0.01	0.00				
WC	(N)	31	27	3402	65	32	30	3589	0.9479	18.19	87.91
	(%)	0.01	0.01	0.96	0.02	0.01	0.01				
WS	(N)	36	28	3393	33	41	26	3557	0.9539	17.54	86.32
	(%)	0.01	0.01	0.96	0.01	0.01	0.01				
WW	(N)	18	11	1864	25	25	15	1958	0.9520	17.88	86.65
	(%)	0.01	0.01	0.96	0.01	0.01	0.01				
TOT	(N)	157	161	13812	262	255	174	14828	0.9315	17.16	83.01
	(%)	0.01	0.01	0.94	0.02	0.02	0.01				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-70

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM LG - 5

GROUP		NR	1	2	3	4	5*	N	P	MS	MT
		RESPONSE									
AI	(N)	6	14	16	23	39	80	178	0.4494	14.61	70.14
	(%)	0.03	0.08	0.09	0.13	0.23	0.47				
AA	(N)	129	198	157	231	343	834	1895	0.4401	13.10	60.38
	(%)	0.07	0.11	0.09	0.13	0.19	0.47				
MA	(N)	26	42	35	46	87	254	491	0.5173	14.09	67.72
	(%)	0.05	0.09	0.08	0.10	0.19	0.55				
PR	(N)	8	5	5	8	14	39	79	0.4937	12.80	60.10
	(%)	0.10	0.07	0.07	0.11	0.20	0.55				
CL	(N)	5	9	10	7	15	61	107	0.5701	13.84	67.92
	(%)	0.05	0.09	0.10	0.07	0.15	0.60				
OR	(N)	4	3	8	10	20	131	176	0.7443	18.68	90.59
	(%)	0.02	0.02	0.05	0.06	0.12	0.76				
WE	(N)	84	95	101	142	233	2142	2798	0.7655	18.46	89.53
	(%)	0.03	0.04	0.04	0.05	0.09	0.79				
WC	(N)	89	144	141	237	342	2634	3589	0.7339	18.19	87.91
	(%)	0.02	0.04	0.04	0.07	0.10	0.75				
WS	(N)	100	182	163	264	342	2506	3557	0.7045	17.54	86.32
	(%)	0.03	0.05	0.05	0.08	0.10	0.72				
WW	(N)	51	75	79	121	176	1456	1958	0.7436	17.88	86.65
	(%)	0.03	0.04	0.04	0.06	0.09	0.76				
TOT	(N)	502	767	715	1089	1611	10137	14828	0.6836	17.16	83.01
	(%)	0.03	0.05	0.05	0.08	0.11	0.71				

% NR = NR/(TOTAL N)　　% RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-71
ITEM RESPONSE PATTERNS AND STATISTICS
ITEM LG - 6

GROUP		RESPONSE NR	1	2*	3	4	5	N	P	MS	MT
AI	(N)	2	7	149	10	3	7	178	0.8371	14.61	70.14
	(%)	0.01	0.04	0.85	0.06	0.02	0.04				
AA	(N)	41	82	1526	95	71	77	1895	0.8053	13.10	60.38
	(%)	0.02	0.04	0.82	0.05	0.04	0.04				
MA	(N)	10	15	410	26	11	18	491	0.8350	14.09	67.72
	(%)	0.02	0.03	0.85	0.05	0.02	0.04				
PR	(N)	2	3	66	3	3	2	79	0.8354	12.80	60.10
	(%)	0.03	0.04	0.86	0.04	0.04	0.03				
CL	(N)	2	1	88	6	3	7	107	0.8224	13.84	67.92
	(%)	0.02	0.01	0.84	0.06	0.03	0.07				
CR	(N)	0	1	166	4	1	4	176	0.9432	18.68	90.59
	(%)	0.0	0.01	0.94	0.02	0.01	0.02				
WE	(N)	39	29	2612	33	36	48	2798	0.9335	18.46	89.53
	(%)	0.01	0.01	0.95	0.01	0.01	0.02				
WC	(N)	58	34	3344	49	45	57	3589	0.9317	18.19	87.91
	(%)	0.02	0.01	0.95	0.01	0.01	0.02				
WS	(N)	43	43	3312	54	46	59	3557	0.9311	17.54	86.32
	(%)	0.01	0.01	0.94	0.02	0.01	0.02				
WW	(N)	33	20	1806	34	24	41	1958	0.9224	17.88	86.65
	(%)	0.02	0.01	0.94	0.02	0.01	0.02				
TOT	(N)	230	235	13479	314	243	320	14828	0.9090	17.16	83.01
	(%)	0.02	0.02	0.92	0.02	0.02	0.02				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-72

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM LG - 7

GROUP		NR	1	2	3	4	5*	N	P	MS	MT
AI	(N)	14	8	8	37	19	92	178	0.5169	14.61	70.14
	(%)	0.08	0.05	0.05	0.23	0.12	0.56				
AA	(N)	158	81	135	295	209	1014	1895	0.5351	13.10	60.38
	(%)	0.08	0.05	0.08	0.17	0.12	0.58				
MA	(N)	33	27	22	73	51	284	491	0.5784	14.09	67.72
	(%)	0.07	0.06	0.05	0.16	0.11	0.62				
PR	(N)	9	4	3	8	5	50	79	0.6329	12.80	60.10
	(%)	0.11	0.06	0.04	0.11	0.07	0.71				
CL	(N)	16	3	2	16	9	61	107	0.5701	13.84	67.92
	(%)	0.15	0.03	0.02	0.18	0.10	0.67				
OR	(N)	8	1	6	10	9	142	176	0.8068	18.68	90.59
	(%)	0.05	0.01	0.04	0.06	0.05	0.85				
WE	(N)	169	54	79	214	124	2157	2798	0.7709	18.46	89.53
	(%)	0.06	0.02	0.03	0.08	0.05	0.82				
WC	(N)	196	92	88	346	207	2658	3589	0.7406	18.19	87.91
	(%)	0.05	0.03	0.03	0.10	0.06	0.78				
WS	(N)	226	92	112	369	212	2546	3557	0.7158	17.54	86.32
	(%)	0.06	0.03	0.03	0.11	0.06	0.76				
WW	(N)	127	54	40	163	102	1472	1958	0.7518	17.88	86.65
	(%)	0.06	0.03	0.02	0.09	0.06	0.80				
TOT	(N)	956	416	495	1531	947	10476	14828	0.7065	17.16	83.01
	(%)	0.06	0.03	0.04	0.11	0.07	0.76				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-73

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM LG - 8

GROUP		RESPONSE NR	1	2	3	4*	5	N	P	MS	MT
AI	(N)	15	6	12	31	99	15	178	0.5562	14.61	70.14
	(%)	0.08	0.04	0.07	0.19	0.61	0.09				
AA	(N)	225	107	108	409	890	153	1895	0.4697	13.10	60.38
	(%)	0.12	0.06	0.06	0.24	0.53	0.09				
MA	(N)	53	21	25	93	258	40	491	0.5255	14.09	67.72
	(%)	0.11	0.05	0.06	0.21	0.59	0.09				
PR	(N)	11	4	6	12	37	9	79	0.4684	12.80	60.10
	(%)	0.14	0.06	0.09	0.18	0.54	0.13				
OL	(N)	13	9	5	11	61	8	107	0.5701	13.84	67.92
	(%)	0.12	0.10	0.05	0.12	0.65	0.09				
CR	(N)	15	4	5	20	126	6	176	0.7159	18.68	90.59
	(%)	0.09	0.02	0.03	0.12	0.78	0.04				
WE	(N)	222	48	56	249	2110	112	2798	0.7541	18.46	89.53
	(%)	0.08	0.02	0.02	0.10	0.82	0.04				
WC	(N)	263	89	85	363	2642	145	3589	0.7361	18.19	87.91
	(%)	0.07	0.03	0.03	0.11	0.79	0.04				
WS	(N)	377	116	138	448	2336	142	3557	0.6567	17.54	86.32
	(%)	0.11	0.04	0.04	0.14	0.73	0.04				
WW	(N)	208	66	48	206	1335	95	1958	0.6818	17.88	86.65
	(%)	0.11	0.04	0.03	0.12	0.76	0.05				
TOT	(N)	1402	470	488	1842	9894	725	14828	0.6673	17.16	83.01
	(%)	0.09	0.04	0.04	0.14	0.74	0.05				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE F-74

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM LG - 9

GROUP		RESPONSE NR	1	2	3	4	5*	N	P	MS	MT
AI	(N)	5	27	16	17	22	91	178	0.5112	14.61	70.14
	(%)	0.03	0.16	0.09	0.10	0.13	0.53				
AA	(N)	191	192	190	211	244	864	1895	0.4559	13.10	60.38
	(%)	0.10	0.11	0.11	0.12	0.14	0.51				
MA	(N)	33	46	41	57	68	245	491	0.4990	14.09	67.72
	(%)	0.07	0.10	0.09	0.12	0.15	0.53				
PR	(N)	7	7	7	11	9	38	79	0.4810	12.80	60.10
	(%)	0.09	0.10	0.10	0.15	0.13	0.53				
CL	(N)	10	11	8	15	17	46	107	0.4299	13.84	67.92
	(%)	0.09	0.11	0.08	0.15	0.18	0.47				
CR	(N)	8	5	7	13	15	128	176	0.7273	18.68	90.59
	(%)	0.05	0.03	0.04	0.08	0.09	0.76				
WE	(N)	154	117	130	202	208	1986	2798	0.7098	18.46	89.53
	(%)	0.06	0.04	0.05	0.08	0.08	0.75				
WC	(N)	183	170	215	239	270	2510	3589	0.6994	18.19	87.91
	(%)	0.05	0.05	0.06	0.07	0.08	0.74				
WS	(N)	202	184	227	269	292	2383	3557	0.6699	17.54	86.32
	(%)	0.06	0.05	0.07	0.08	0.09	0.71				
WW	(N)	115	107	116	136	120	1364	1958	0.6966	17.88	86.65
	(%)	0.06	0.06	0.06	0.07	0.07	0.74				
TOT	(N)	908	866	957	1170	1265	9655	14828	0.6511	17.16	83.01
	(%)	0.06	0.06	0.07	0.08	0.09	0.69				

% NR = NR/(TOTAL N)

% RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-75

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM LG -10

GROUP		RESPONSE NR	1	2	3	4*	5	N	P	MS	MT
AI	(N)	7	2	11	22	122	14	178	0.6854	14.61	70.14
	(%)	0.04	0.01	0.06	0.13	0.71	0.08				
AA	(N)	74	74	99	128	1360	157	1895	0.7177	13.10	60.38
	(%)	0.04	0.04	0.05	0.07	0.75	0.09				
MA	(N)	16	18	26	26	366	39	491	0.7454	14.09	67.72
	(%)	0.03	0.04	0.05	0.05	0.77	0.08				
PR	(N)	2	3	2	7	57	8	79	0.7215	12.80	60.10
	(%)	0.03	0.04	0.03	0.09	0.74	0.10				
CL	(N)	5	2	9	7	77	7	107	0.7196	13.84	67.92
	(%)	0.05	0.02	0.09	0.07	0.75	0.07				
CR	(N)	0	2	8	5	153	8	176	0.8693	18.68	90.59
	(%)	0.0	0.01	0.05	0.03	0.87	0.05				
WE	(N)	67	36	49	82	2450	113	2798	0.8756	18.46	89.53
	(%)	0.02	0.01	0.02	0.03	0.90	0.04				
WC	(N)	64	57	88	125	3108	145	3589	0.8660	18.19	87.91
	(%)	0.02	0.02	0.02	0.04	0.88	0.04				
WS	(N)	83	54	84	126	3060	150	3557	0.8603	17.54	86.32
	(%)	0.02	0.02	0.02	0.04	0.88	0.04				
WW	(N)	38	22	63	74	1665	96	1958	0.8504	17.88	86.65
	(%)	0.02	0.01	0.03	0.04	0.87	0.05				
TOT	(N)	356	270	439	602	12418	736	14828	0.8375	17.16	83.01
	(%)	0.02	0.02	0.03	0.04	0.86	0.05				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-76
ITEM RESPONSE PATTERNS AND STATISTICS
ITEM LG -11

GROUP		RESPONSE NR	1	2*	3	4	5	N	P	MS	MT
AI	(N)	11	14	113	6	10	24	178	0.6348	14.61	70.14
	(%)	0.06	0.08	0.68	0.04	0.06	0.14				
AA	(N)	160	110	1135	154	164	169	1895	0.5989	13.10	60.38
	(%)	0.08	0.06	0.65	0.09	0.09	0.10				
MA	(N)	34	13	304	37	43	59	491	0.6191	14.09	67.72
	(%)	0.07	0.03	0.67	0.08	0.09	0.13				
PR	(N)	6	6	46	7	4	10	79	0.5823	12.80	60.10
	(%)	0.08	0.08	0.63	0.10	0.05	0.14				
CL	(N)	7	8	57	8	15	12	107	0.5327	13.84	67.92
	(%)	0.07	0.08	0.57	0.08	0.15	0.12				
OR	(N)	3	3	134	11	12	13	176	0.7614	18.68	90.59
	(%)	0.02	0.02	0.77	0.06	0.07	0.08				
WE	(N)	113	76	2265	96	84	163	2798	0.8095	18.46	89.53
	(%)	0.04	0.03	0.84	0.04	0.03	0.06				
WC	(N)	134	104	2862	136	132	21[illegible]	3589	0.7974	18.19	87.91
	(%)	0.04	0.03	0.83	0.04	0.04	0.06				
WS	(N)	155	125	2751	156	145	225	3557	0.7734	17.54	86.32
	(%)	0.04	0.04	0.81	0.05	0.04	0.07				
WW	(N)	70	48	1589	72	63	116	1958	0.8115	17.88	86.65
	(%)	0.04	0.03	0.84	0.04	0.03	0.06				
TOT	(N)	693	507	11256	683	672	1010	14826	0.7591	17.16	83.01
	(%)	0.05	0.04	0.80	0.05	0.05	0.07				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-77

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM LG -12

		RESPONSE									
GROUP		NR	1	2	3	4*	5	N	P	MS	MT
AI	(N)	1	2	3	6	160	6	178	0.8989	14.61	70.14
	(%)	0.01	0.01	0.02	0.03	0.90	0.03				
AA	(N)	55	48	55	89	1564	81	1895	0.8253	13.10	60.38
	(%)	0.03	0.03	0.03	0.05	0.85	0.04				
MA	(N)	13	9	11	21	418	18	491	0.8513	14.09	67.72
	(%)	0.03	0.02	0.02	0.04	0.87	0.04				
PR	(N)	1	3	1	5	67	2	79	0.8481	12.80	60.10
	(%)	0.01	0.04	0.01	0.06	0.86	0.03				
CL	(N)	6	1	3	4	90	3	107	0.8411	13.84	67.92
	(%)	0.06	0.01	0.03	0.04	0.89	0.03				
CR	(N)	3	2	0	2	168	1	176	0.9545	18.68	90.59
	(%)	0.02	0.01	0.0	0.01	0.97	0.01				
WE	(N)	28	20	23	32	2662	32	2798	0.9514	18.46	89.53
	(%)	0.01	0.01	0.01	0.01	0.96	0.01				
WC	(N)	32	26	31	55	3397	46	3589	0.9465	18.19	87.91
	(%)	0.01	0.01	0.01	0.02	0.96	0.01				
WS	(N)	42	34	31	59	3330	61	3557	0.9362	17.54	86.32
	(%)	0.01	0.01	0.01	0.02	0.95	0.02				
WW	(N)	23	23	18	31	1826	37	1958	0.9326	17.88	86.65
	(%)	0.01	0.01	0.01	0.02	0.94	0.02				
TOT	(N)	204	168	176	304	13682	287	14828	0.9227	17.16	83.01
	(%)	0.01	0.01	0.01	0.02	0.94	0.02				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-78

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM LG -13

		RESPONSE									
GROUP		NR	1	2	3	4	5*	N	P	MS	MT
AI	(N)	3	3	8	6	12	146	178	0.8202	14.61	70.14
	(%)	0.02	0.02	0.05	0.03	0.07	0.83				
AA	(N)	56	50	40	113	122	1511	1895	0.7974	13.10	60.38
	(%)	0.03	0.03	0.02	0.06	0.07	0.82				
MA	(N)	8	14	12	24	32	400	491	0.8147	14.09	67.72
	(%)	0.02	0.03	0.02	0.05	0.07	0.83				
PR	(N)	3	2	2	4	2	66	79	0.8354	12.80	60.10
	(%)	0.04	0.03	0.03	0.05	0.03	0.87				
CL	(N)	5	4	2	7	5	84	107	0.7850	13.84	67.92
	(%)	0.05	0.04	0.02	0.07	0.05	0.82				
CR	(N)	1	1	0	3	3	168	176	0.9545	18.68	90.59
	(%)	0.01	0.01	0.0	0.02	0.02	0.96				
WE	(N)	30	23	17	66	99	2562	2798	0.9157	18.46	89.53
	(%)	0.01	0.01	0.01	0.02	0.04	0.93				
WC	(N)	32	26	36	77	140	3276	3589	0.9128	18.19	87.91
	(%)	0.01	0.01	0.01	0.02	0.04	0.92				
WS	(N)	45	39	41	90	140	3202	3557	0.9002	17.54	86.32
	(%)	0.01	0.01	0.01	0.03	0.04	0.91				
WW	(N)	30	13	12	51	74	1778	1958	0.9081	17.88	86.65
	(%)	0.02	0.01	0.01	0.03	0.04	0.92				
TOT	(N)	213	175	170	441	629	13193	14828	0.8897	17.16	83.01
	(%)	0.01	0.01	0.01	0.03	0.04	0.90				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-79

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM LG -14

GROUP		NR	1	2*	3	4	5	N	P	MS	MT
		RESPONSE									
AI	(N)	4	15	93	10	27	29	178	0.5225	14.61	70.14
	(%)	0.02 |	0.09	0.53	0.06	0.16	0.17				
AA	(N)	93	229	920	223	248	179	1895	0.4855	13.10	60.38
	(%)	0.05 |	0.13	0.51	0.12	0.14	0.10				
MA	(N)	15	43	280	54	44	54	491	0.5703	14.09	67.72
	(%)	0.03 |	0.09	0.59	0.11	0.09	0.11				
PR	(N)	4	13	37	6	10	9	79	0.4684	12.80	60.10
	(%)	0.05 |	0.17	0.49	0.08	0.13	0.12				
CL	(N)	9	14	54	8	9	13	107	0.5047	13.84	67.92
	(%)	0.08 |	0.14	0.55	0.08	0.09	0.13				
CR	(N)	2	11	137	7	12	7	176	0.7784	18.68	90.59
	(%)	0.01 |	0.06	0.79	0.04	0.07	0.04				
WE	(N)	47	164	2170	136	153	127	2798	0.7756	18.46	89.53
	(%)	0.02 |	0.06	0.79	0.05	0.06	0.05				
WC	(N)	55	258	2652	202	218	202	3589	0.7389	18.19	87.91
	(%)	0.02 |	0.07	0.75	0.06	0.06	0.06				
WS	(N)	63	257	2601	206	247	183	3557	0.7312	17.54	86.32
	(%)	0.02 |	0.07	0.74	0.06	0.07	0.05				
WW	(N)	39	129	1457	113	127	93	1958	0.7441	17.88	86.65
	(%)	0.02 |	0.07	0.76	0.06	0.07	0.05				
TOT	(N)	331	1133	10401	965	1095	896	14828	0.7014	17.16	83.01
	(%)	0.02 |	0.08	0.72	0.07	0.08	0.06				

% NR = NR/(TOTAL N) % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-80

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM LG -15

GROUP		RESPONSE NR	1	2	3*	4	5	N	P	MS	MT
AI	(N)	14	3	7	127	15	12	178	0.7135	14.61	70.14
	(%)	0.08	0.02	0.04	0.77	0.09	0.07				
AA	(N)	294	119	137	1088	163	101	1895	0.5741	13.10	60.38
	(%)	0.15	0.07	0.09	0.68	0.10	0.06				
MA	(N)	49	17	24	342	31	27	491	0.6965	14.09	67.72
	(%)	0.10	0.04	0.05	0.77	0.07	0.06				
PR	(N)	11	7	3	52	3	3	79	0.6582	12.80	60.10
	(%)	0.14	0.10	0.04	0.76	0.04	0.04				
CL	(N)	14	5	7	70	7	4	107	0.6542	13.84	67.92
	(%)	0.13	0.05	0.08	0.75	0.08	0.04				
COR	(N)	9	1	4	155	3	4	176	0.8807	18.68	90.59
	(%)	0.05	0.01	0.02	0.93	0.02	0.02				
WE	(N)	218	47	56	2327	91	58	2798	0.8317	18.46	89.53
	(%)	0.08	0.02	0.02	0.90	0.04	0.02				
WC	(N)	237	87	88	2981	118	76	3589	0.8306	18.19	87.91
	(%)	0.07	0.03	0.03	0.89	0.04	0.02				
WS	(N)	262	87	102	2854	141	111	3557	0.8024	17.54	86.32
	(%)	0.07	0.03	0.03	0.87	0.04	0.03				
WW	(N)	137	34	54	1629	63	41	1958	0.8320	17.88	86.65
	(%)	0.07	0.02	0.03	0.89	0.03	0.02				
TOT	(N)	1235	407	482	11625	635	437	14828	0.7840	17.16	83.01
	(%)	0.08	0.03	0.04	0.86	0.05	0.03				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-81

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM LG -16

GROUP		RESPONSE NR	1	2	3*	4	5	N	F	MS	MT
AI	(N)	8	10	16	110	22	12	178	0.6180	14.61	70.14
	(%)	0.04	0.06	0.09	0.65	0.13	0.07				
AA	(N)	230	122	164	1053	211	112	1895	0.5557	13.10	60.38
	(%)	0.12	0.07	0.10	0.63	0.13	0.07				
MA	(N)	40	34	34	293	53	36	491	0.5967	14.09	67.72
	(%)	0.08	0.08	0.08	0.65	0.12	0.08				
PR	(N)	11	7	5	37	7	12	79	0.4684	12.80	60.10
	(%)	0.14	0.10	0.07	0.54	0.10	0.18				
CL	(N)	8	3	8	66	15	7	107	0.6168	13.84	67.92
	(%)	0.07	0.03	0.08	0.67	0.15	0.07				
OR	(N)	6	2	5	151	10	2	176	0.8580	18.68	90.59
	(%)	0.03	0.01	0.03	0.89	0.06	0.01				
WE	(N)	90	62	81	2371	114	79	2798	0.8474	18.46	89.53
	(%)	0.03	0.02	0.03	0.88	0.04	0.03				
WC	(N)	132	75	129	2938	189	124	3589	0.8186	18.19	87.91
	(%)	0.04	0.02	0.04	0.85	0.05	0.04				
WS	(N)	124	107	147	2829	214	136	3557	0.7953	17.54	86.32
	(%)	0.03	0.03	0.04	0.82	0.06	0.04				
WW	(N)	75	49	72	1600	108	54	1958	0.8172	17.88	86.65
	(%)	0.04	0.03	0.04	0.85	0.06	0.03				
TOT	(N)	724	471	661	11448	943	574	14828	0.7721	17.16	83.01
	(%)	0.05	0.03	0.05	0.81	0.07	0.04				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-82

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM LG -17

GROUP		RESPONSE NR	1	2	3	4*	5	N	P	MS	MT
AI	(N)	5	16	13	12	116	16	178	0.6517	14.61	70.14
	(%)	0.03	0.09	0.08	0.07	0.67	0.09				
AA	(N)	236	161	142	184	1014	155	1895	0.5351	13.10	60.38
	(%)	0.12	0.10	0.09	0.11	0.61	0.09				
MA	(N)	38	23	50	52	287	40	491	0.5845	14.09	67.72
	(%)	0.08	0.05	0.11	0.11	0.63	0.09				
PR	(N)	14	4	2	8	46	5	79	0.5823	12.80	60.10
	(%)	0.18	0.06	0.03	0.12	0.71	0.08				
CL	(N)	8	5	7	14	66	7	107	0.6168	13.84	67.92
	(%)	0.07	0.05	0.07	0.14	0.67	0.07				
OR	(N)	5	7	2	8	144	10	176	0.8182	18.68	90.59
	(%)	0.03	0.04	0.01	0.05	0.84	0.06				
WE	(N)	109	59	76	114	2344	95	2798	0.8377	18.46	89.53
	(%)	0.04	0.02	0.03	0.04	0.87	0.04				
W[illegible]	[illegible]	146	85	121	159	2944	132	3589	0.8203	18.19	87.91
	(%)	0.04	0.02	0.04	0.05	0.86	0.04				
WS	(N)	138	112	133	164	2850	160	3557	0.8012	17.54	86.32
	(%)	0.04	0.03	0.04	0.05	0.83	0.05				
WW	(N)	91	53	69	84	1579	82	1958	0.8064	17.88	86.65
	(%)	0.05	0.03	0.04	0.04	0.85	0.04				
TOT	(N)	790	525	615	799	11390	702	14828	0.7681	17.16	83.01
	(%)	0.05	0.04	0.04	0.06	0.81	0.05				

% NR = NR/(TOTAL N)　　% RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-83

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM LG -18

GROUP		NR	RESPONSE 1*	2	3	4	5	N	P	MS	MT
AI	(N)	24	88	20	19	11	16	178	0.4944	14.61	70.14
	(%)	0.13	0.57	0.13	0.12	0.07	0.10				
AA	(N)	340	957	177	146	111	161	1895	0.5050	13.10	60.38
	(%)	0.18	0.62	0.11	0.09	0.07	0.10				
MA	(N)	60	264	45	36	50	35	491	0.5377	14.09	67.72
	(%)	0.12	0.61	0.10	0.08	0.12	0.08				
PR	(N)	23	32	8	3	4	9	79	0.4051	12.80	60.10
	(%)	0.29	0.57	0.14	0.05	0.07	0.16				
OL	(N)	13	56	8	14	8	8	107	0.5234	13.84	67.92
	(%)	0.12	0.60	0.09	0.15	0.09	0.09				
OR	(N)	24	126	8	9	1	8	176	0.7159	18.68	90.59
	(%)	0.14	0.83	0.05	0.06	0.01	0.05				
WE	(N)	388	1906	132	104	116	151	2798	0.6812	18.46	89.53
	(%)	0.14	0.79	0.05	0.04	0.05	0.06				
WC	(N)	413	2432	210	141	184	207	3589	0.6776	18.19	87.91
	(%)	0.12	0.77	0.07	0.04	0.06	0.07				
WS	(N)	459	2228	230	190	199	251	3557	0.6264	17.54	86.32
	(%)	0.13	0.72	0.07	0.06	0.06	0.08				
WW	(N)	270	1239	118	87	116	128	1958	0.6328	17.88	86.65
	(%)	0.14	0.73	0.07	0.05	0.07	0.08				
TOT	(N)	2014	9329	956	749	800	974	14828	0.6291	17.16	83.01
	(%)	0.14	0.73	0.07	0.06	0.06	0.08				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-84

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM LG -19

GROUP		RESPONSE NR	1	2*	3	4	5	N	P	MS	MT
AI	(N)	16	11	70	15	15	51	178	0.3933	14.61	70.14
	(%)	0.09	0.07	0.43	0.09	0.09	0.31				
AA	(N)	414	111	648	197	149	373	1895	0.3420	13.10	60.38
	(%)	0.22	0.07	0.44	0.13	0.10	0.25				
MA	(N)	94	30	187	33	45	101	491	0.3809	14.09	67.72
	(%)	0.19	0.08	0.47	0.08	0.11	0.25				
PR	(N)	31	4	21	6	6	11	79	0.2658	12.80	60.10
	(%)	0.39	0.08	0.44	0.13	0.13	0.23				
CL	(N)	18	10	34	12	6	27	107	0.3178	13.84	67.92
	(%)	0.17	0.11	0.38	0.13	0.07	0.30				
OR	(N)	23	6	102	6	7	32	176	0.5795	18.68	90.59
	(%)	0.13	0.04	0.67	0.04	0.05	0.21				
WE	(N)	424	80	1518	130	108	537	2798	0.5425	18.46	89.53
	(%)	0.15	0.03	0.64	0.05	0.05	0.23				
WC	(N)	430	122	1989	179	167	700	3589	0.5542	18.19	87.91
	(%)	0.12	0.04	0.63	0.06	0.05	0.22				
WS	(N)	443	125	1899	183	188	719	3557	0.5339	17.54	86.32
	(%)	0.12	0.04	0.61	0.06	0.06	0.23				
WW	(N)	272	68	1070	102	81	365	1958	0.5465	17.88	86.65
	(%)	0.14	0.04	0.63	0.06	0.05	0.22				
TOT	(N)	2165	567	7538	863	772	2916	14828	0.5084	17.16	83.01
	(%)	0.15	0.04	0.60	0.07	0.06	0.23				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-85

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM LG -20

GROUP		NR	1	2*	3	4	5	N	P	MS	MT
		RESPONSE									
AI	(N)	19	6	111	16	10	16	178	0.6236	14.61	70.14
	(%)	0.11	0.04	0.70	0.10	0.06	0.10				
AA	(N)	426	81	964	151	101	169	1895	0.5087	13.10	60.38
	(%)	0.22	0.06	0.66	0.10	0.07	0.12				
MA	(N)	82	21	280	39	24	44	491	0.5703	14.09	67.72
	(%)	0.17	0.05	0.68	0.10	0.06	0.11				
PR	(N)	26	2	29	7	10	5	79	0.3671	12.80	60.10
	(%)	0.33	0.04	0.55	0.13	0.19	0.09				
CL	(N)	23	6	57	5	4	12	107	0.5327	13.84	67.92
	(%)	0.21	0.07	0.68	0.06	0.05	0.14				
OR	(N)	12	2	149	0	5	8	176	0.8466	18.68	90.59
	(%)	0.07	0.01	0.91	0.0	0.03	0.05				
WE	(N)	264	61	2251	66	63	92	2798	0.8045	18.46	89.53
	(%)	0.09	0.02	0.89	0.03	0.02	0.04				
WC	(N)	267	81	2882	121	72	164	3589	0.8030	18.19	87.91
	(%)	0.07	0.02	0.87	0.04	0.02	0.05				
WS	(N)	325	94	2759	131	97	151	3557	0.7757	17.54	86.32
	(%)	0.09	0.03	0.85	0.04	0.03	0.05				
WW	(N)	192	52	1538	68	36	72	1958	0.7855	17.88	86.65
	(%)	0.10	0.03	0.87	0.04	0.02	0.04				
TOT	(N)	1636	406	11020	604	422	733	14828	0.7432	17.16	83.01
	(%)	0.11	0.03	0.84	0.05	0.03	0.06				

% NR = NR/(TOTAL N)

% RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE F-86
ITEM RESPONSE PATTERNS AND STATISTICS
ITEM LG -21

GROUP		RESPONSE NR	1	2	3	4*	5	N	P	MS	MT
AI	(N)	31	24	15	16	82	10	178	0.4607	14.61	70.14
	(%)	0.17	0.16	0.10	0.11	0.56	0.07				
AA	(N)	592	273	118	217	619	73	1895	0.3266	13.10	60.38
	(%)	0.31	0.21	0.09	0.17	0.48	0.06				
MA	(N)	117	56	31	62	184	40	491	0.3747	14.09	67.72
	(%)	0.24	0.15	0.08	0.17	0.49	0.11				
PR	(N)	33	5	7	8	22	4	79	0.2785	12.80	60.10
	(%)	0.42	0.11	0.15	0.17	0.48	0.09				
CL	(N)	28	13	7	10	46	3	107	0.4299	13.84	67.92
	(%)	0.26	0.16	0.09	0.13	0.58	0.04				
CR	(N)	25	9	4	9	122	7	176	0.6932	18.68	90.59
	(%)	0.14	0.06	0.03	0.06	0.81	0.05				
WE	(N)	520	157	76	158	1815	71	2798	0.6487	18.46	89.53
	(%)	0.19	0.07	0.03	0.07	0.80	0.03				
WC	(N)	588	256	132	253	2242	116	3589	0.6247	18.19	87.91
	(%)	0.16	0.09	0.04	0.08	0.75	0.04				
WS	(N)	625	306	121	231	2158	116	3557	0.6067	17.54	86.32
	(%)	0.18	0.10	0.04	0.08	0.74	0.04				
WW	(N)	361	130	57	146	1199	65	1958	0.6124	17.88	86.65
	(%)	0.18	0.08	0.04	0.09	0.75	0.04				
TOT	(N)	2920	1229	568	1110	8485	505	14828	0.5725	17.16	83.01
	(%)	0.20	0.10	0.05	0.09	0.71	0.04				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-87

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM LG -22

GROUP		RESPONSE NR	1	2	3	4	5*	N	P	MS	MT
AI	(N)	45	16	24	20	25	48	178	0.2697	14.61	70.14
	(%)	0.25	0.12	0.18	0.15	0.19	0.36				
AA	(N)	824	163	205	151	209	340	1895	0.1794	13.10	60.38
	(%)	0.43	0.15	0.19	0.14	0.20	0.32				
MA	(N)	185	37	75	45	44	104	491	0.2118	14.09	67.72
	(%)	0.38	0.12	0.25	0.15	0.14	0.34				
PR	(N)	41	4	9	4	11	10	79	0.1266	12.80	60.10
	(%)	0.52	0.11	0.24	0.11	0.29	0.26				
CL	(N)	41	5	15	16	9	21	107	0.1963	13.84	67.92
	(%)	0.38	0.08	0.23	0.24	0.14	0.32				
OR	(N)	66	9	19	5	11	66	176	0.3750	18.68	90.59
	(%)	0.38	0.08	0.17	0.05	0.10	0.60				
WE	(N)	1092	116	282	141	164	1002	2798	0.3581	18.46	89.53
	(%)	0.39	0.07	0.17	0.08	0.10	0.59				
WC	(N)	1246	210	363	252	245	1271	3589	0.3541	18.19	87.91
	(%)	0.35	0.09	0.15	0.11	0.10	0.54				
WS	(N)	1298	181	393	249	289	1147	3557	0.3225	17.54	86.32
	(%)	0.36	0.08	0.17	0.11	0.13	0.51				
WW	(N)	744	113	220	116	130	635	1958	0.3243	17.88	86.65
	(%)	0.38	0.09	0.18	0.10	0.11	0.52				
TOT	(N)	5582	854	1605	999	1137	4644	14828	0.3132	17.16	83.01
	(%)	0.38	0.09	0.17	0.11	0.12	0.50				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-88

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM LG -23

GROUP		RESPONSE										
		NR	1	2	3	4	5*	N	P	MS	MT
AI	(N)	50	11	33	20	33	31	178	0.1742	14.61	70.14
	(%)	0.28	0.09	0.26	0.16	0.26	0.24				
AA	(N)	902	111	252	157	294	176	1895	0.0929	13.10	60.38
	(%)	0.48	0.11	0.25	0.16	0.30	0.18				
MA	(N)	195	27	77	43	91	57	491	0.1161	14.09	67.72
	(%)	0.40	0.09	0.26	0.15	0.31	0.19				
PR	(N)	45	5	8	5	10	6	79	0.0759	12.80	60.10
	(%)	0.57	0.15	0.24	0.15	0.29	0.18				
CL	(N)	46	7	23	8	13	10	107	0.0935	13.84	67.92
	(%)	0.43	0.11	0.38	0.13	0.21	0.16				
OR	(N)	74	8	18	16	18	42	176	0.2386	18.68	90.59
	(%)	0.42	0.08	0.18	0.16	0.18	0.41				
WE	(N)	1217	104	315	140	390	631	2798	0.2255	18.46	89.53
	(%)	0.43	0.07	0.20	0.09	0.25	0.40				
WC	(N)	1409	152	515	232	511	768	3589	0.2140	18.19	87.91
	(%)	0.39	0.07	0.24	0.11	0.23	0.35				
WS	(N)	1459	136	473	253	591	645	3557	0.1813	17.54	86.32
	(%)	0.41	0.06	0.23	0.12	0.28	0.31				
WW	(N)	822	64	227	102	290	453	1958	0.2314	17.88	86.65
	(%)	0.42	0.06	0.20	0.09	0.26	0.40				
TOT	(N)	6219	625	1941	976	2241	2819	14828	0.1901	17.16	83.01
	(%)	0.42	0.07	0.23	0.11	0.26	0.33				

% NR = NR/(TOTAL N)

% RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-89

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM LG -24

GROUP		RESPONSE NR	1	2	3*	4	5	N	P	MS	MT
AI	(N)	41	13	14	77	19	14	178	0.4326	14.61	70.14
	(%)	0.23	0.09	0.10	0.56	0.14	0.10				
AA	(N)	840	94	133	483	130	162	1895	0.2549	13.10	60.38
	(%)	0.44	0.09	0.13	0.46	0.17	0.15				
MA	(N)	186	23	32	158	52	39	491	0.3218	14.09	67.72
	(%)	0.38	0.08	0.10	0.52	0.17	0.13				
PR	(N)	42	6	3	16	5	7	79	0.2025	12.80	60.10
	(%)	0.53	0.16	0.08	0.43	0.14	0.19				
OL	(N)	43	3	7	37	12	5	107	0.3458	13.84	67.92
	(%)	0.40	0.05	0.11	0.58	0.19	0.08				
OR	(N)	42	4	6	100	16	8	176	0.5682	18.68	90.59
	(%)	0.24	0.03	0.04	0.75	0.12	0.06				
WE	(N)	830	50	107	1497	182	131	2798	0.5350	18.46	89.53
	(%)	0.30	0.03	0.05	0.76	0.09	0.07				
WC	(N)	938	109	154	1933	263	190	3589	0.5386	18.19	87.91
	(%)	0.26	0.04	0.06	0.73	0.10	0.07				
WS	(N)	1035	84	188	1751	286	213	3557	0.4923	17.54	86.32
	(%)	0.29	0.03	0.07	0.69	0.11	0.08				
WW	(N)	634	57	88	973	121	85	1958	0.4969	17.88	86.65
	(%)	0.32	0.04	0.07	0.73	0.09	0.06				
TOT	(N)	4631	443	732	7025	1136	854	14828	0.4738	17.16	83.01
	(%)	0.31	0.04	0.07	0.69	0.11	0.08				

% NR = NR/(TOTAL N) % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-90
ITEM RESPONSE PATTERNS AND STATISTICS
ITEM LG -25

GROUP		NR	1*	2	3	4	5	N	P	MS	MT
		RESPONSE									
AI	(N)	59	54	17	20	17	11	178	0.3034	14.61	70.14
	(%)	0.33	0.45	0.14	0.17	0.14	0.09				
AA	(N)	976	378	134	142	141	121	1895	0.1995	13.10	60.38
	(%)	0.52	0.41	0.15	0.15	0.15	0.13				
MA	(N)	240	97	33	38	52	30	491	0.1976	14.09	67.72
	(%)	0.49	0.39	0.13	0.15	0.21	0.12				
PR	(N)	49	8	8	2	5	7	79	0.1013	12.80	60.10
	(%)	0.62	0.27	0.27	0.07	0.17	0.23				
CL	(N)	50	23	6	14	7	7	107	0.2150	13.84	67.92
	(%)	0.47	0.40	0.11	0.25	0.12	0.12				
GR	(N)	66	75	3	11	14	7	176	0.4261	18.68	90.59
	(%)	0.38	0.68	0.03	0.10	0.13	0.06				
WE	(N)	1209	1096	116	126	157	93	2798	0.3917	18.46	89.53
	(%)	0.43	0.69	0.07	0.08	0.10	0.06				
WC	(N)	1349	1493	147	188	252	158	3589	0.4160	18.19	87.91
	(%)	0.38	0.67	0.07	0.08	0.11	0.07				
WS	(N)	1489	1242	186	181	279	180	3557	0.3492	17.54	86.32
	(%)	0.42	0.60	0.09	0.09	0.13	0.09				
WW	(N)	866	681	84	105	142	80	1958	0.3478	17.88	86.65
	(%)	0.44	0.62	0.08	0.10	0.13	0.07				
TOT	(N)	6353	5147	734	827	1066	694	14828	0.3471	17.16	83.01
	(%)	0.43	0.61	0.09	0.10	0.13	0.08				

% NR = NR/(TOTAL N) % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-91

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM M - 1

GROUP		RESPONSE NR	1*	2	3	4	N	F	MS	MT
AI	(N)	0	125	25	27	1	178	0.7022	11.71	70.14
	(%)	0.0	0.70	0.14	0.15	0.01				
AA	(N)	16	1224	369	266	17	1895	0.6459	10.29	60.38
	(%)	0.01	0.65	0.20	0.14	0.01				
MA	(N)	2	314	78	95	1	491	0.6395	11.46	67.72
	(%)	0.00	0.64	0.16	0.19	0.00				
PR	(N)	0	55	16	7	1	79	0.6962	10.03	60.10
	(%)	0.0	0.70	0.20	0.09	0.01				
CL	(N)	1	72	15	18	1	107	0.6729	11.84	67.92
	(%)	0.01	0.68	0.14	0.17	0.01				
OR	(N)	0	155	6	15	0	176	0.8807	17.91	90.59
	(%)	0.0	0.88	0.03	0.09	0.0				
WE	(N)	6	2429	172	189	1	2798	0.8681	16.78	89.53
	(%)	0.00	0.87	0.06	0.07	0.00				
WC	(N)	5	3115	204	260	3	3589	0.8679	16.43	87.91
	(%)	0.00	0.87	0.06	0.07	0.00				
WS	(N)	7	3022	233	291	4	3557	0.8496	16.08	86.32
	(%)	0.00	0.85	0.07	0.08	0.00				
WW	(N)	3	1636	143	168	8	1958	0.8355	15.93	86.65
	(%)	0.00	0.84	0.07	0.09	0.00				
TOT	(N)	40	12147	1261	1336	37	14828	0.8192	15.29	83.01
	(%)	0.00	0.82	0.09	0.09	0.00				

% NR = NR/(TOTAL N)　　% RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-92

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM M - 2

GROUP		RESPONSE								
		NR	1	2*	3	4	N	P	MS	MT
AI	(N)	0	12	129	33	4	178	0.7247	11.71	70.14
	(%)	0.0	0.07	0.72	0.19	0.02				
AA	(N)	13	190	1264	342	63	1895	0.6776	10.29	60.38
	(%)	0.01	0.10	0.68	0.18	0.03				
MA	(N)	3	41	352	78	16	491	0.7169	11.46	67.72
	(%)	0.01	0.08	0.72	0.16	0.03				
PR	(N)	0	9	54	12	4	79	0.6835	10.03	60.10
	(%)	0.0	0.11	0.68	0.15	0.05				
CL	(N)	0	6	81	17	3	107	0.7570	11.84	67.92
	(%)	0.0	0.06	0.76	0.16	0.03				
OR	(N)	0	4	145	27	0	176	0.8239	17.91	90.59
	(%)	0.0	0.02	0.82	0.15	0.0				
WE	(N)	2	115	2210	448	22	2798	0.7898	16.78	89.53
	(%)	0.00	0.04	0.79	0.16	0.01				
WC	(N)	3	148	2729	676	31	3589	0.7604	16.43	87.91
	(%)	0.00	0.04	0.76	0.19	0.01				
WS	(N)	6	142	2726	654	29	3557	0.7664	16.08	86.32
	(%)	0.00	0.04	0.77	0.18	0.01				
WW	(N)	1	90	1474	379	14	1958	0.7528	15.93	86.65
	(%)	0.00	0.05	0.75	0.19	0.01				
TOT	(N)	28	757	11184	2666	186	14828	0.7542	15.29	83.01
	(%)	0.00	0.05	0.76	0.18	0.01				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-93

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM M - 3

GROUP		RESPONSE								
		NR	1	2	3*	4	N	P	MS	MT
AI	(N)	4	11	23	130	10	178	0.7303	11.71	70.14
	(%)	0.02	0.06	0.13	0.75	0.06				
AA	(N)	45	129	307	1254	157	1895	0.6617	10.29	60.38
	(%)	0.02	0.07	0.17	0.68	0.08				
MA	(N)	9	25	64	359	33	491	0.7312	11.46	67.72
	(%)	0.02	0.05	0.13	0.74	0.07				
PR	(N)	1	8	13	53	4	79	0.6709	10.03	60.10
	(%)	0.01	0.10	0.17	0.68	0.05				
CL	(N)	1	9	17	78	2	107	0.7290	11.84	67.92
	(%)	0.01	0.08	0.16	0.74	0.02				
CR	(N)	4	4	13	150	5	176	0.8523	17.91	90.59
	(%)	0.02	0.02	0.08	0.87	0.03				
WE	(N)	28	50	187	2440	92	2798	0.8721	16.78	89.53
	(%)	0.01	0.02	0.07	0.88	0.03				
WC	(N)	41	80	267	3066	133	3589	0.8543	16.43	87.91
	(%)	0.01	0.02	0.08	0.86	0.04				
WS	(N)	44	90	214	3068	141	3557	0.8625	16.08	86.32
	(%)	0.01	0.03	0.06	0.87	0.04				
WW	(N)	17	56	151	1664	70	1958	0.8498	15.93	86.65
	(%)	0.01	0.03	0.08	0.86	0.04				
TOT	(N)	194	462	1256	12262	647	14828	0.8269	15.29	83.01
	(%)	0.01	0.03	0.09	0.84	0.04				

% NR = NR/(TOTAL N) % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-94
ITEM RESPONSE PATTERNS AND STATISTICS
ITEM M - 4

GROUP		NR	1	2*	3	4	N	P	MS	MT
		RESPONSE								
AI	(N)	2	22	125	22	7	178	0.7022	11.71	70.14
	(%)	0.01	0.13	0.71	0.13	0.04				
AA	(N)	24	246	1236	302	84	1895	0.6522	10.29	60.38
	(%)	0.01	0.13	0.66	0.16	0.04				
MA	(N)	8	53	354	46	29	491	0.7210	11.46	67.72
	(%)	0.02	0.11	0.73	0.10	0.06				
PR	(N)	2	9	53	10	5	79	0.6709	10.03	60.10
	(%)	0.03	0.12	0.69	0.13	0.06				
CL	(N)	0	14	76	8	9	107	0.7103	11.84	67.92
	(%)	0.0	0.13	0.71	0.07	0.08				
CR	(N)	1	16	146	8	5	176	0.8295	17.91	90.59
	(%)	0.01	0.09	0.83	0.05	0.03				
WE	(N)	22	261	2338	121	55	2798	0.8356	16.78	89.53
	(%)	0.01	0.09	0.84	0.04	0.02				
WC	(N)	19	316	3043	143	66	3589	0.8479	16.43	87.91
	(%)	0.01	0.09	0.85	0.04	0.02				
WS	(N)	22	317	2963	181	74	3557	0.8330	16.08	86.32
	(%)	0.01	0.09	0.84	0.05	0.02				
WW	(N)	7	156	1675	69	51	1958	0.8555	15.93	86.65
	(%)	0.00	0.08	0.86	0.04	0.03				
TOT	(N)	107	1410	12009	910	385	14828	0.8099	15.29	83.01
	(%)	0.01	0.10	0.82	0.06	0.03				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-95

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM M - 5

GROUP		RESPONSE NR	1	2*	3	4	N	P	MS	MT
AI	(N)	5	30	74	37	32	178	0.4157	11.71	70.14
	(%)	0.03	0.17	0.43	0.21	0.18				
AA	(N)	45	308	868	435	236	1895	0.4580	10.29	60.38
	(%)	0.02	0.17	0.47	0.24	0.13				
MA	(N)	8	66	249	86	81	491	0.5071	11.46	67.72
	(%)	0.02	0.14	0.52	0.18	0.17				
PR	(N)	2	13	34	18	12	79	0.4304	10.03	60.10
	(%)	0.03	0.17	0.44	0.23	0.16				
CL	(N)	3	17	55	20	12	107	0.5140	11.84	67.92
	(%)	0.03	0.16	0.53	0.19	0.12				
OR	(N)	4	9	150	5	8	176	0.8523	17.91	90.59
	(%)	0.02	0.05	0.87	0.03	0.05				
WE	(N)	45	208	2141	187	216	2798	0.7652	16.78	89.53
	(%)	0.02	0.08	0.78	0.07	0.08				
WC	(N)	65	278	2678	253	313	3589	0.7462	16.43	87.91
	(%)	0.02	0.08	0.76	0.07	0.09				
WS	(N)	43	291	2685	268	270	3557	0.7548	16.08	86.32
	(%)	0.01	0.08	0.76	0.08	0.08				
WW	(N)	26	181	1452	147	152	1958	0.7416	15.93	86.65
	(%)	0.01	0.09	0.75	0.08	0.08				
TOT	(N)	246	1401	10386	1456	1332	14828	0.7004	15.29	83.01
	(%)	0.02	0.10	0.71	0.10	0.09				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-96
ITEM RESPONSE PATTERNS AND STATISTICS
ITEM M - 6

		RESPONSE								
GROUP		NR	1	2	3*	4	N	P	MS	MT
AI	(N)	1	10	43	114	10	178	0.6404	11.71	70.14
	(%)	0.01	0.06	0.24	0.64	0.06				
AA	(N)	39	161	498	1060	134	1895	0.5594	10.29	60.38
	(%)	0.02	0.09	0.27	0.57	0.07				
MA	(N)	14	40	118	279	39	491	0.5682	11.46	67.72
	(%)	0.03	0.08	0.25	0.58	0.08				
PR	(N)	2	7	20	47	3	79	0.5949	10.03	60.10
	(%)	0.03	0.09	0.26	0.61	0.04				
CL	(N)	5	11	26	60	5	107	0.5607	11.84	67.92
	(%)	0.05	0.11	0.25	0.59	0.05				
OR	(N)	3	4	36	125	8	176	0.7102	17.91	90.59
	(%)	0.02	0.02	0.21	0.72	0.05				
WE	(N)	25	79	379	2258	56	2798	0.8070	16.78	89.53
	(%)	0.01	0.03	0.14	0.81	0.02				
WC	(N)	21	79	442	2976	69	3589	0.8292	16.43	87.91
	(%)	0.01	0.02	0.12	0.83	0.02				
WS	(N)	28	117	551	2783	78	3557	0.7824	16.08	86.32
	(%)	0.01	0.03	0.16	0.79	0.02				
WW	(N)	13	58	319	1532	36	1958	0.7824	15.93	86.65
	(%)	0.01	0.03	0.16	0.79	0.02				
TOT	(N)	151	566	2432	11234	438	14828	0.7576	15.29	83.01
	(%)	0.01	0.04	0.17	0.77	0.03				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-97

ITEM RESPONSE PATTERNS AND STATISTICS
ITEM M - 7

GROUP		NR	1	2	3	4*	N	P	MS	MT
		RESPONSE								
AI	(N)	1	20	24	14	119	178	0.6685	11.71	70.14
	(%)	0.01	0.11	0.14	0.08	0.67				
AA	(N)	43	316	287	200	1046	1895	0.5520	10.29	60.38
	(%)	0.02	0.17	0.15	0.11	0.56				
MA	(N)	13	76	68	57	276	491	0.5621	11.46	67.72
	(%)	0.03	0.16	0.14	0.12	0.58				
PR	(N)	1	13	15	7	43	79	0.5443	10.03	60.10
	(%)	0.01	0.17	0.19	0.09	0.55				
CL	(N)	6	17	12	9	63	107	0.5888	11.84	67.92
	(%)	0.06	0.17	0.12	0.09	0.62				
CR	(N)	3	7	19	4	143	176	0.8125	17.91	90.59
	(%)	0.02	0.04	0.11	0.02	0.83				
WE	(N)	20	164	236	116	2261	2798	0.8081	16.78	89.53
	(%)	0.01	0.06	0.08	0.04	0.81				
WC	(N)	27	251	277	152	2880	3589	0.8025	16.43	87.91
	(%)	0.01	0.07	0.08	0.04	0.81				
WS	(N)	21	270	375	158	2733	3557	0.7683	16.08	86.32
	(%)	0.01	0.08	0.11	0.04	0.77				
WW	(N)	20	160	159	88	1531	1958	0.7819	15.93	86.65
	(%)	0.01	0.08	0.08	0.05	0.79				
TOT	(N)	155	1294	1472	805	11095	14828	0.7482	15.29	83.01
	(%)	0.01	0.09	0.10	0.05	0.76				

% NR = NR/(TOTAL N)　　% RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-98

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM M - 8

GROUP		RESPONSE NR	I	2	3*	4	N	P	MS	MT
AI	(N)	3	17	53	80	25	178	0.4494	11.71	70.14
	(%)	0.02	0.10	0.30	0.46	0.14				
AA	(N)	39	169	576	688	370	1895	0.3631	10.29	60.38
	(%)	0.05	0.09	0.32	0.38	0.20				
MA	(N)	27	41	134	201	87	491	0.4094	11.46	67.72
	(%)	0.05	0.09	0.29	0.43	0.19				
PR	(N)	2	9	18	33	17	79	0.4177	10.03	60.10
	(%)	0.03	0.12	0.23	0.43	0.22				
CL	(N)	6	6	35	45	15	107	0.4206	11.84	67.92
	(%)	0.06	0.06	0.35	0.45	0.15				
CR	(N)	2	4	23	132	15	176	0.7500	17.91	90.59
	(%)	0.01	0.02	0.13	0.76	0.09				
WE	(N)	77	123	452	1836	309	2798	0.6562	16.78	89.53
	(%)	0.03	0.05	0.17	0.67	0.11				
WC	(N)	79	167	684	2277	380	3589	0.6344	16.43	87.91
	(%)	0.02	0.05	0.19	0.65	0.11				
WS	(N)	80	217	635	2239	386	3557	0.6295	16.08	86.32
	(%)	0.02	0.06	0.18	0.64	0.11				
WW	(N)	53	114	367	1220	204	1958	0.6231	15.93	86.65
	(%)	0.03	0.06	0.19	0.64	0.11				
TOT	(N)	418	867	2977	8751	1808	14828	0.5902	15.29	83.01
	(%)	0.03	0.06	0.21	0.61	0.13				

% NR = NR/(TOTAL N)

% RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-99
ITEM RESPONSE PATTERNS AND STATISTICS
ITEM M - 9

GROUP		NR	1	2	3*	4	N	P	MS	MT
		RESPONSE								
AI	(N)	1	42	12	108	15	178	0.6067	11.71	70.14
	(%)	0.01	0.24	0.07	0.61	0.08				
AA	(N)	51	367	218	1064	192	1895	0.5615	10.29	60.38
	(%)	0.03	0.20	0.12	0.58	0.10				
MA	(N)	20	101	29	302	38	491	0.6151	11.46	67.72
	(%)	0.04	0.21	0.06	0.64	0.08				
PR	(N)	5	21	7	38	8	79	0.4810	10.03	60.10
	(%)	0.06	0.28	0.09	0.51	0.11				
CL	(N)	3	23	8	64	9	107	0.5981	11.84	67.92
	(%)	0.03	0.22	0.08	0.62	0.09				
OR	(N)	4	14	7	135	16	176	0.7670	17.91	90.59
	(%)	0.02	0.08	0.04	0.78	0.09				
WE	(N)	47	308	151	2187	104	2798	0.7816	16.78	89.53
	(%)	0.02	0.11	0.05	0.79	0.04				
WC	(N)	47	425	198	2737	180	3589	0.7626	16.43	87.91
	(%)	0.01	0.12	0.06	0.77	0.05				
WS	(N)	36	488	217	2671	145	3557	0.7509	16.08	86.32
	(%)	0.01	0.14	0.06	0.76	0.04				
WW	(N)	30	245	131	1459	93	1958	0.7451	15.93	86.65
	(%)	0.02	0.13	0.07	0.76	0.05				
TOT	(N)	244	2034	978	10765	800	14828	0.7260	15.29	83.01
	(%)	0.02	0.14	0.07	0.74	0.05				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-100

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM M -10

GROUP		RESPONSE NR	1	2*	3	4	N	P	MS	MT
AI	(N)	5	52	83	14	24	178	0.4663	11.71	70.14
	(%)	0.03	0.30	0.48	0.08	0.14				
AA	(N)	59	776	705	172	180	1895	0.3720	10.29	60.38
	(%)	0.03	0.42	0.38	0.09	0.10				
MA	(N)	15	173	211	42	49	491	0.4297	11.46	67.72
	(%)	0.03	0.36	0.44	0.09	0.10				
PR	(N)	3	35	28	2	11	79	0.3544	10.03	60.10
	(%)	0.04	0.46	0.37	0.03	0.14				
CL	(N)	2	52	45	3	5	107	0.4206	11.84	67.92
	(%)	0.02	0.50	0.43	0.03	0.05				
OR	(N)	1	29	136	7	3	176	0.7727	17.91	90.59
	(%)	0.01	0.17	0.78	0.04	0.02				
WE	(N)	58	744	1805	69	121	2798	0.6451	16.78	89.53
	(%)	0.02	0.27	0.66	0.03	0.04				
WC	(N)	52	999	2255	99	182	3589	0.6283	16.43	87.91
	(%)	0.01	0.28	0.64	0.03	0.05				
WS	(N)	44	992	2257	105	159	3557	0.6345	16.08	86.32
	(%)	0.01	0.28	0.64	0.03	0.05				
WW	(N)	24	579	1213	64	78	1958	0.6195	15.93	86.65
	(%)	0.01	0.30	0.63	0.03	0.04				
TOT	(N)	263	4431	8738	577	812	14828	0.5893	15.29	83.01
	(%)	0.02	0.30	0.60	0.04	0.06				

% NR = NR/(TOTAL N)

% RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-101

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM M -11

GROUP		NR	1	2	3*	4	N	P	MS	MT
		RESPONSE								
AI	(N)	3	59	24	88	4	178	0.4944	11.71	70.14
	(%)	0.02	0.34	0.14	0.50	0.02				
AA	(N)	48	738	316	662	128	1895	0.3493	10.29	60.38
	(%)	0.03	0.40	0.17	0.36	0.07				
MA	(N)	16	158	84	206	26	491	0.4196	11.46	67.72
	(%)	0.03	0.33	0.18	0.43	0.05				
PR	(N)	4	22	20	28	5	79	0.3544	10.03	60.10
	(%)	0.05	0.29	0.27	0.37	0.07				
CL	(N)	2	34	17	50	4	107	0.4673	11.84	67.92
	(%)	0.02	0.32	0.16	0.48	0.04				
CR	(N)	2	34	29	102	9	176	0.5795	17.91	90.59
	(%)	0.01	0.20	0.17	0.59	0.05				
WE	(N)	38	559	342	1782	76	2798	0.6369	16.78	89.53
	(%)	0.01	0.20	0.12	0.65	0.03				
WC	(N)	46	711	488	2257	85	3589	0.6289	16.43	87.91
	(%)	0.01	0.20	0.14	0.64	0.02				
WS	(N)	45	701	530	2174	107	3557	0.6112	16.08	86.32
	(%)	0.01	0.20	0.15	0.62	0.03				
WW	(N)	25	433	263	1185	52	1958	0.6052	15.93	86.65
	(%)	0.01	0.22	0.14	0.61	0.03				
TOT	(N)	229	3449	2113	8534	496	14828	0.5755	15.29	83.01
	(%)	0.02	0.24	0.14	0.58	0.03				

% NR = NR/(TOTAL N) % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-102
ITEM RESPONSE PATTERNS AND STATISTICS
ITEM M -12

		RESPONSE								
GROUP		NR	1	2*	3	4	N	P	MS	MT
AI	(N)	5	56	82	22	13	178	0.4607	11.71	70.14
	(%)	0.03	0.32	0.47	0.13	0.08				
AA	(N)	64	461	1000	263	104	1895	0.5277	10.29	60.38
	(%)	0.03	0.25	0.55	0.14	0.06				
MA	(N)	19	116	275	62	18	491	0.5601	11.46	67.72
	(%)	0.04	0.25	0.58	0.13	0.04				
PR	(N)	4	20	41	9	5	79	0.5190	10.03	60.10
	(%)	0.05	0.27	0.55	0.12	0.07				
CL	(N)	7	26	56	16	2	107	0.5234	11.84	67.92
	(%)	0.07	0.26	0.56	0.16	0.02				
OR	(N)	3	14	147	10	2	176	0.8352	17.91	90.59
	(%)	0.02	0.08	0.85	0.06	0.01				
WE	(N)	75	371	2070	222	59	2798	0.7398	16.78	89.53
	(%)	0.03	0.14	0.76	0.08	0.02				
WC	(N)	84	535	2576	319	73	3589	0.7177	16.43	87.91
	(%)	0.02	0.15	0.73	0.09	0.02				
WS	(N)	77	536	2535	326	83	3557	0.7127	16.08	86.32
	(%)	0.02	0.15	0.73	0.09	0.02				
WW	(N)	43	275	1422	175	43	1958	0.7263	15.93	86.65
	(%)	0.02	0.14	0.74	0.09	0.02				
TOT	(N)	381	2410	10204	1424	402	14828	0.6882	15.29	83.01
	(%)	0.03	0.17	0.71	0.10	0.03				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-103

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM M -13

GROUP		NR	RESPONSE 1	 2	 3*	 4	N	P	MS	MT
AI	(N)	5	18	69	82	4	178	0.4607	11.71	70.14
	(%)	0.03	0.10	0.40	0.47	0.02				
AA	(N)	52	161	850	747	82	1895	0.3942	10.29	60.38
	(%)	0.03	0.09	0.46	0.41	0.04				
MA	(N)	14	51	183	229	13	491	0.4664	11.46	67.72
	(%)	0.03	0.11	0.38	0.48	0.03				
PR	(N)	1	6	40	26	6	79	0.3291	10.03	60.10
	(%)	0.01	0.08	0.51	0.33	0.08				
OL	(N)	4	10	36	55	2	107	0.5140	11.84	67.92
	(%)	0.04	0.10	0.35	0.53	0.02				
OR	(N)	0	11	23	140	2	176	0.7955	17.91	90.59
	(%)	0.0	0.06	0.13	0.80	0.01				
WE	(N)	30	235	537	1973	22	2798	0.7051	16.78	89.53
	(%)	0.01	0.08	0.19	0.71	0.01				
WC	(N)	30	317	765	2439	36	3589	0.6796	16.43	87.91
	(%)	0.01	0.09	0.21	0.69	0.01				
WS	(N)	33	355	799	2344	26	3557	0.6590	16.08	86.32
	(%)	0.01	0.10	0.23	0.67	0.01				
WW	(N)	26	190	438	1283	21	1958	0.6553	15.93	86.65
	(%)	0.01	0.10	0.23	0.66	0.01				
TOT	(N)	195	1354	3740	9318	214	14828	0.6284	15.29	83.01
	(%)	0.01	0.09	0.26	0.64	0.01				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-104

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM M -14

GROUP		NR	1*	2	3	4	N	P	MS	MT
		RESPONSE								
AI	(N)	2	101	56	10	9	178	0.5674	11.71	70.14
	(%)	0.01 |	0.57	0.32	0.06	0.05				
AA	(N)	84	757	757	201	93	1895	0.3995	10.29	60.38
	(%)	0.04 |	0.42	0.42	0.11	0.05				
MA	(N)	13	258	154	52	13	491	0.5255	11.46	67.72
	(%)	0.03 |	0.54	0.32	0.11	0.03				
PR	(N)	7	37	28	4	3	79	0.4684	10.03	60.10
	(%)	0.09 |	0.51	0.39	0.06	0.04				
CL	(N)	3	63	32	7	2	107	0.5888	11.84	67.92
	(%)	0.03 |	0.61	0.31	0.07	0.02				
CR	(N)	2	131	30	8	5	176	0.7443	17.91	90.59
	(%)	0.01 |	0.75	0.17	0.05	0.03				
WE	(N)	35	2021	568	124	49	2798	0.7223	16.78	89.53
	(%)	0.01 |	0.73	0.21	0.04	0.02				
WC	(N)	13	2580	781	154	59	3589	0.7189	16.43	87.91
	(%)	0.00 |	0.72	0.22	0.04	0.02				
WS	(N)	25	2438	845	178	71	3557	0.6854	16.08	86.32
	(%)	0.01 |	0.69	0.24	0.05	0.02				
WW	(N)	23	1392	435	80	28	1958	0.7109	15.93	86.65
	(%)	0.01 |	0.72	0.22	0.04	0.01				
TOT	(N)	207	9778	3686	818	332	14828	0.6594	15.29	83.01
	(%)	0.01 |	0.67	0.25	0.06	0.02				

% NR = NR/(TOTAL N) % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-105

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM M -15

GROUP		RESPONSE NR	1*	2	3	4	N	P	MS	MT
AI	(N)	13	74	21	18	52	178	0.4157	11.71	70.14
	(%)	0.07	0.45	0.13	0.11	0.32				
AA	(N)	158	746	232	215	540	1895	0.3937	10.29	60.38
	(%)	0.08	0.43	0.13	0.12	0.31				
MA	(N)	35	174	51	56	174	491	0.3544	11.46	67.72
	(%)	0.07	0.38	0.11	0.12	0.38				
PR	(N)	12	30	9	9	19	79	0.3797	10.03	60.10
	(%)	0.15	0.45	0.13	0.13	0.28				
CL	(N)	13	35	10	8	41	107	0.3271	11.84	67.92
	(%)	0.12	0.37	0.11	0.09	0.44				
CR	(N)	11	115	14	8	28	176	0.6534	17.91	90.59
	(%)	0.06	0.70	0.08	0.05	0.17				
WE	(N)	156	1683	237	168	553	2798	0.6015	16.78	89.53
	(%)	0.06	0.64	0.09	0.06	0.21				
WC	(N)	139	2150	273	224	801	3589	0.5991	16.43	87.91
	(%)	0.04	0.62	0.08	0.06	0.23				
WS	(N)	154	2036	276	253	837	3557	0.5724	16.08	86.32
	(%)	0.04	0.60	0.08	0.07	0.25				
WW	(N)	84	1110	156	143	465	1958	0.5669	15.93	86.65
	(%)	0.04	0.59	0.08	0.08	0.25				
TOT	(N)	775	8153	1279	1102	3510	14828	0.5498	15.29	83.01
	(%)	0.05	0.58	0.09	0.08	0.25				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-106

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM M -16

GROUP		RESPONSE NR	1*	2	3	4	N	P	MS	MT
AI	(N)	6	55	35	72	10	178	0.3090	11.71	70.14
	(%)	0.03	0.32	0.20	0.42	0.06				
AA	(N)	110	569	435	672	106	1895	0.3003	10.29	60.38
	(%)	0.06	0.32	0.24	0.38	0.06				
MA	(N)	31	193	82	160	24	491	0.3931	11.46	67.72
	(%)	0.06	0.42	0.18	0.35	0.05				
FR	(N)	7	26	20	22	4	79	0.3291	10.03	60.10
	(%)	0.09	0.36	0.28	0.31	0.06				
OL	(N)	5	43	23	30	6	107	0.4019	11.84	67.92
	(%)	0.05	0.42	0.23	0.29	0.06				
CR	(N)	2	135	21	15	3	176	0.7670	17.91	90.59
	(%)	0.01	0.78	0.12	0.09	0.02				
WE	(N)	76	1725	453	430	113	2798	0.6165	16.78	89.53
	(%)	0.03	0.63	0.17	0.16	0.04				
WC	(N)	77	2060	689	631	130	3589	0.5740	16.43	87.91
	(%)	0.02	0.59	0.20	0.18	0.04				
WS	(N)	72	2165	600	627	93	3557	0.6087	16.08	86.32
	(%)	0.02	0.62	0.17	0.18	0.03				
WW	(N)	61	1103	414	319	61	1958	0.5633	15.93	86.65
	(%)	0.03	0.58	0.22	0.17	0.03				
TOT	(N)	447	8074	2772	2978	550	14828	0.5445	15.29	83.01
	(%)	0.03	0.56	0.19	0.21	0.04				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-107

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM M -17

		RESPONSE								
GROUP		NR	1	2	3*	4	N	P	MS	MT
AI	(N)	6	67	22	76	7	178	0.4270	11.71	70.14
	(%)	0.03	0.39	0.13	0.44	0.04				
AA	(N)	146	769	162	757	58	1895	0.3995	10.29	60.38
	(%)	0.08	0.44	0.09	0.43	0.03				
MA	(N)	30	183	51	214	12	491	0.4358	11.46	67.72
	(%)	0.06	0.40	0.11	0.46	0.03				
PR	(N)	11	36	5	23	4	79	0.2911	10.03	60.10
	(%)	0.14	0.53	0.07	0.34	0.06				
OL	(N)	5	40	10	51	1	107	0.4766	11.84	67.92
	(%)	0.05	0.39	0.10	0.50	0.01				
OR	(N)	3	23	9	138	3	176	0.7841	17.91	90.59
	(%)	0.02	0.13	0.05	0.80	0.02				
WE	(N)	70	674	194	1817	42	2798	0.6494	16.78	89.53
	(%)	0.03	0.25	0.07	0.67	0.02				
WC	(N)	59	1000	241	2230	57	3589	0.6213	16.43	87.91
	(%)	0.02	0.28	0.07	0.63	0.02				
WS	(N)	59	968	244	2236	50	3557	0.6286	16.08	86.32
	(%)	0.02	0.28	0.07	0.64	0.01				
WW	(N)	58	531	149	1201	19	1958	0.6134	15.93	86.65
	(%)	0.03	0.28	0.08	0.63	0.01				
TOT	(N)	447	4291	1087	8743	253	14828	0.5896	15.29	83.01
	(%)	0.03	0.30	0.08	0.61	0.02				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-108

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM M -18

		RESPONSE								
GROUP		NR	1	2	3	4*	N	P	MS	MT
AI	(N)	8	51	35	15	69	178	0.3876	11.71	70.14
	(%)	0.04	0.30	0.21	0.09	0.41				
AA	(N)	235	617	273	145	622	1895	0.3282	10.29	60.38
	(%)	0.12	0.37	0.16	0.09	0.37				
MA	(N)	45	144	96	37	168	491	0.3422	11.46	67.72
	(%)	0.09	0.32	0.22	0.08	0.38				
PR	(N)	15	23	12	7	22	79	0.2785	10.03	60.10
	(%)	0.19	0.36	0.19	0.11	0.34				
OL	(N)	8	36	23	8	32	107	0.2991	11.84	67.92
	(%)	0.07	0.36	0.23	0.08	0.32				
CR	(N)	5	28	36	8	99	176	0.5625	17.91	90.59
	(%)	0.03	0.16	0.21	0.05	0.58				
WE	(N)	112	432	524	88	1641	2798	0.5865	16.78	89.53
	(%)	0.04	0.16	0.20	0.03	0.61				
WC	(N)	73	581	762	104	2067	3589	0.5759	16.43	87.91
	(%)	0.02	0.17	0.22	0.03	0.59				
WS	(N)	92	587	841	109	1928	3557	0.5420	16.08	86.32
	(%)	0.03	0.17	0.24	0.03	0.56				
WW	(N)	80	292	449	56	1081	1958	0.5521	15.93	86.65
	(%)	0.04	0.16	0.24	0.03	0.58				
TOT	(N)	673	2791	3051	577	7729	14828	0.5212	15.29	83.01
	(%)	0.05	0.20	0.22	0.04	0.55				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-109

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM M -19

GROUP		RESPONSE NR	1	2*	3	4	N	P	MS	MT
AI	(N)	13	54	70	27	14	178	0.3933	11.71	70.14
	(%)	0.07	0.33	0.42	0.16	0.08				
AA	(N)	277	431	684	298	202	1895	0.3609	10.29	60.38
	(%)	0.15	0.27	0.42	0.18	0.12				
MA	(N)	55	117	199	72	47	491	0.4053	11.46	67.72
	(%)	0.11	0.27	0.46	0.17	0.11				
PR	(N)	16	19	24	11	9	79	0.3038	10.03	60.10
	(%)	0.20	0.30	0.38	0.17	0.14				
OL	(N)	11	25	54	11	6	107	0.5047	11.84	67.92
	(%)	0.10	0.26	0.56	0.11	0.06				
CR	(N)	8	37	118	7	6	176	0.6705	17.91	90.59
	(%)	0.05	0.22	0.70	0.04	0.04				
WE	(N)	169	683	1619	231	95	2798	0.5786	16.78	89.53
	(%)	0.06	0.26	0.62	0.09	0.04				
WC	(N)	143	967	2079	279	119	3589	0.5793	16.43	87.91
	(%)	0.04	0.28	0.60	0.08	0.03				
WS	(N)	136	971	1960	351	139	3557	0.5510	16.08	86.32
	(%)	0.04	0.28	0.57	0.10	0.04				
WW	(N)	109	574	1066	146	63	1958	0.5444	15.93	86.65
	(%)	0.06	0.31	0.58	0.08	0.03				
TOT	(N)	937	3878	7873	1433	700	14828	0.5310	15.29	83.01
	(%)	0.06	0.28	0.57	0.10	0.05				

% NR = NR/(TOTAL N) % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-110

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM M -20

		RESPONSE								
GROUP		NR	1	2	3	4*	N	P	MS	MT
AI	(N)	10	7	38	55	68	178	0.3820	11.71	70.14
	(%)	0.06	0.04	0.23	0.33	0.40				
AA	(N)	271	71	453	521	576	1895	0.3040	10.29	60.38
	(%)	0.14	0.04	0.28	0.32	0.35				
MA	(N)	55	17	123	125	170	491	0.3462	11.46	67.72
	(%)	0.11	0.04	0.28	0.29	0.39				
PR	(N)	18	3	17	20	21	79	0.2658	10.03	60.10
	(%)	0.23	0.05	0.28	0.33	0.34				
CL	(N)	8	7	29	25	38	107	0.3551	11.84	67.92
	(%)	0.07	0.07	0.29	0.25	0.38				
OR	(N)	5	4	31	27	109	176	0.6193	17.91	90.59
	(%)	0.03	0.02	0.18	0.16	0.64				
WE	(N)	92	47	389	462	1807	2798	0.6458	16.78	89.53
	(%)	0.03	0.02	0.14	0.17	0.67				
WC	(N)	80	55	538	620	2294	3589	0.6392	16.43	87.91
	(%)	0.02	0.02	0.15	0.18	0.65				
WS	(N)	83	61	624	608	2181	3557	0.6132	16.08	86.32
	(%)	0.02	0.02	0.18	0.18	0.63				
WW	(N)	84	40	318	325	1191	1958	0.6083	15.93	86.65
	(%)	0.04	0.02	0.17	0.17	0.64				
TOT	(N)	706	312	2560	2788	8455	14828	0.5702	15.29	83.01
	(%)	0.05	0.02	0.18	0.20	0.60				

% NR = NR/(TOTAL N) % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-111
ITEM RESPONSE PATTERNS AND STATISTICS
ITEM M -21

GROUP		NR	1	2*	3	4	N	P	MS	MT
		RESPONSE								
AI	(N)	11	12	49	100	6	178	0.2753	11.71	70.14
	(%)	0.06	0.07	0.29	0.60	0.04				
AA	(N)	318	163	369	1004	38	1895	0.1947	10.29	60.38
	(%)	0.17	0.10	0.23	0.64	0.02				
MA	(N)	66	39	142	229	14	491	0.2892	11.46	67.72
	(%)	0.13	0.09	0.33	0.54	0.03				
PR	(N)	19	8	16	34	2	79	0.2025	10.03	60.10
	(%)	0.24	0.13	0.27	0.57	0.03				
CL	(N)	10	4	38	49	6	107	0.3551	11.84	67.92
	(%)	0.09	0.04	0.39	0.51	0.06				
CR	(N)	7	12	119	[illegible]	0	176	0.6761	17.91	90.59
	(%)	0.04	0.07	0.70	[illegible]	0				
WE	(N)	120	123	1524	1008	22	2798	0.5447	16.78	89.53
	(%)	0.04	0.05	0.57	0.38	0.01				
WC	(N)	97	163	1854	1451	22	3589	0.5166	16.43	87.91
	(%)	0.03	0.05	0.53	0.42	0.01				
WS	(N)	110	192	1788	1438	29	3557	0.5027	16.08	86.32
	(%)	0.03	0.06	0.52	0.42	0.01				
WW	(N)	94	84	906	862	12	1958	0.4627	15.93	86.65
	(%)	0.05	0.05	0.49	0.46	0.01				
TOT	(N)	852	800	6805	6213	151	14828	0.4589	15.29	83.01
	(%)	0.06	0.06	0.49	0.44	0.01				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-112
ITEM RESPONSE PATTERNS AND STATISTICS
ITEM M -22

GROUP		NR	1*	2	3	4	N	P	MS	MT
		RESPONSE								
AI	(N)	12	48	35	68	15	178	0.2697	11.71	70.14
	(%)	0.07	0.29	0.21	0.41	0.09				
AA	(N)	411	388	368	570	155	1895	0.2047	10.29	60.38
	(%)	0.22	0.26	0.25	0.38	0.10				
MA	(N)	82	129	100	147	32	491	0.2627	11.46	67.72
	(%)	0.17	0.32	0.24	0.36	0.08				
FR	(N)	23	18	16	17	5	79	0.2278	10.03	60.10
	(%)	0.29	0.32	0.29	0.30	0.09				
CL	(N)	17	36	22	28	4	107	0.3364	11.84	67.92
	(%)	0.16	0.40	0.24	0.31	0.04				
CR	(N)	8	113	24	25	6	176	0.6420	17.91	90.59
	(%)	0.05	0.67	0.14	0.15	0.04				
WE	(N)	209	1493	379	543	173	2798	0.5336	16.78	89.53
	(%)	0.07	0.58	0.15	0.21	0.07				
WC	(N)	161	1882	505	834	205	3589	0.5244	16.43	87.91
	(%)	0.04	0.55	0.15	0.24	0.06				
WS	(N)	181	1729	600	845	202	3557	0.4861	16.08	86.32
	(%)	0.05	0.51	0.18	0.25	0.06				
WW	(N)	133	990	306	410	119	1958	0.5056	15.93	86.65
	(%)	0.07	0.54	0.17	0.22	0.07				
TOT	(N)	1237	6826	2355	3487	916	14828	0.4603	15.29	83.01
	(%)	0.08	0.50	0.17	0.26	0.07				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-113
ITEM RESPONSE PATTERNS AND STATISTICS
ITEM M -23

GROUP		RESPONSE NR	1	2*	3	4	N	P	MS	MT
AI	(N)	19	51	45	29	34	178	0.2528	11.71	70.14
	(%)	0.11	0.32	0.28	0.18	0.21				
AA	(N)	540	512	377	176	287	1895	0.1989	10.29	60.38
	(%)	0.28	0.38	0.28	0.13	0.21				
MA	(N)	97	137	107	74	75	491	0.2179	11.46	67.72
	(%)	0.20	0.35	0.27	0.19	0.19				
PR	(N)	29	21	14	7	8	79	0.1772	10.03	60.10
	(%)	0.37	0.42	0.28	0.14	0.16				
OL	(N)	21	31	23	13	19	107	0.2150	11.84	67.92
	(%)	0.20	0.36	0.27	0.15	0.22				
CR	(N)	13	35	92	15	21	176	0.5227	17.91	90.59
	(%)	0.07	0.21	0.56	0.09	0.13				
WE	(N)	310	672	1251	218	346	2798	0.4471	16.78	89.53
	(%)	0.11	0.27	0.50	0.09	0.14				
WC	(N)	265	1025	1498	324	475	3589	0.4174	16.43	87.91
	(%)	0.07	0.31	0.45	0.10	0.14				
WS	(N)	306	986	1469	336	460	3557	0.4130	16.08	86.32
	(%)	0.09	0.30	0.45	0.10	0.14				
WW	(N)	191	549	792	213	213	1958	0.4045	15.93	86.65
	(%)	0.10	0.31	0.45	0.12	0.12				
TOT	(N)	1791	4019	5668	1405	1938	14828	0.3822	15.29	83.01
	(%)	0.12	0.31	0.43	0.11	0.15				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-114

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM M -24

GROUP		RESPONSE NR	1	2	3	4*	N	P	MS	MT
AI	(N)	20	18	63	33	44	178	0.2472	11.71	70.14
	(%)	0.11	0.11	0.40	0.21	0.28				
AA	(N)	587	143	600	219	343	1895	0.1810	10.29	60.38
	(%)	0.31	0.11	0.46	0.17	0.26				
MA	(N)	118	38	154	61	119	491	0.2424	11.46	67.72
	(%)	0.24	0.10	0.41	0.16	0.32				
PR	(N)	29	2	27	11	10	79	0.1266	10.03	60.10
	(%)	0.37	0.04	0.54	0.22	0.20				
OL	(N)	26	9	34	13	25	107	0.2336	11.84	67.92
	(%)	0.24	0.11	0.42	0.16	0.31				
OR	(N)	23	4	55	15	79	176	0.4489	17.91	90.59
	(%)	0.13	0.03	0.36	0.10	0.52				
WE	(N)	444	148	737	150	1318	2798	0.4711	16.78	89.53
	(%)	0.16	0.06	0.31	0.06	0.56				
WC	(N)	368	245	1083	241	1650	3589	0.4597	16.43	87.91
	(%)	0.10	0.08	0.34	0.07	0.51				
WS	(N)	399	247	1087	263	1561	3557	0.4389	16.08	86.32
	(%)	0.11	0.08	0.34	0.08	0.49				
WW	(N)	253	131	5[illegible]	136	847	1958	0.4326	15.93	86.65
	(%)	0.13	0.08	0.35	0.08	0.50				
TOT	(N)	2267	985	4431	1142	5996	14828	0.4044	15.29	83.01
	(%)	0.15	0.08	0.35	0.09	0.48				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-115

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM M -25

GROUP		RESPONSE NR	1	2	3*	4	N	P	MS	MT
AI	(N)	24	18	74	47	15	178	0.2640	11.71	70.14
	(%)	0.13	0.12	0.48	0.31	0.10				
AA	(N)	593	128	570	460	141	1895	0.2427	10.29	60.38
	(%)	0.31	0.10	0.44	0.35	0.11				
MA	(N)	121	33	162	140	34	491	0.2851	11.46	67.72
	(%)	0.25	0.09	0.44	0.38	0.09				
PR	(N)	28	7	18	18	8	79	0.2278	10.03	60.10
	(%)	0.35	0.14	0.35	0.35	0.16				
CL	(N)	20	8	50	29	0	107	0.2710	11.84	67.92
	(%)	0.19	0.09	0.57	0.33	0.0				
OR	(N)	13	9	53	98	3	176	0.5568	17.91	90.59
	(%)	0.07	0.06	0.33	0.60	0.02				
WE	(N)	361	127	931	1315	63	2798	0.4700	16.78	89.53
	(%)	0.13	0.05	0.38	0.54	0.03				
WC	(N)	313	165	1416	1572	121	3589	0.4380	16.43	87.91
	(%)	0.09	0.05	0.43	0.48	0.04				
WS	(N)	348	200	1397	1499	113	3557	0.4214	16.08	86.32
	(%)	0.10	0.06	0.44	0.47	0.04				
WW	(N)	240	80	822	761	55	1958	0.3887	15.93	86.65
	(%)	0.12	0.05	0.48	0.44	0.03				
TOT	(N)	2061	775	5493	5939	553	14828	0.4005	15.29	83.01
	(%)	0.14	0.06	0.43	0.47	0.04				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-116

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM MC - 1

GROUP		RESPONSE					N	P	MS	MT
		NR	1	2	3*	4				
AI	(N)	1	5	8	162	2	178	0.9101	13.68	70.14
	(%)	0.01	0.03	0.05	0.92	0.01				
AA	(N)	44	63	109	1586	90	1895	0.8369	11.00	60.38
	(%)	0.02	0.03	0.06	0.86	0.05				
MA	(N)	6	9	24	443	8	491	0.9022	12.96	67.72
	(%)	0.01	0.02	0.05	0.91	0.02				
PR	(N)	1	3	4	69	2	79	0.8734	11.06	60.10
	(%)	0.01	0.04	0.05	0.88	0.03				
CL	(N)	1	4	4	94	4	107	0.8785	12.43	67.92
	(%)	0.01	0.04	0.04	0.89	0.04				
CR	(N)	1	1	4	166	4	176	0.9432	16.10	90.59
	(%)	0.01	0.01	0.02	0.95	0.02				
WE	(N)	44	15	61	2632	45	2798	0.9407	14.72	89.53
	(%)	0.02	0.01	0.02	0.96	0.02				
WC	(N)	36	35	74	3381	61	3589	0.9420	15.17	87.91
	(%)	0.01	0.01	0.02	0.95	0.02				
WS	(N)	32	34	92	3337	62	3557	0.9382	14.77	86.32
	(%)	0.01	0.01	0.03	0.95	0.02				
WW	(N)	26	17	41	1857	17	1958	0.9484	14.96	86.65
	(%)	0.01	0.01	0.02	0.96	0.01				
TOT	(N)	192	186	421	13727	295	14828	0.9257	14.30	83.01
	(%)	0.01	0.01	0.03	0.94	0.02				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-117

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM MC - 2

		RESPONSE								
GROUP		NR	1	2*	3	4	N	P	MS	MT
AI	(N)	1	9	161	5	2	178	0.9045	13.68	70.14
	(%)	0.01	0.05	0.91	0.03	0.01				
AA	(N)	44	71	1605	126	46	1895	0.8470	11.00	60.38
	(%)	0.02	0.04	0.87	0.07	0.02				
MA	(N)	8	12	441	17	12	491	0.8982	12.96	67.72
	(%)	0.02	0.02	0.91	0.04	0.02				
PR	(N)	1	4	71	1	2	79	0.8987	11.06	60.10
	(%)	0.01	0.05	0.91	0.01	0.03				
CL	(N)	1	1	97	7	1	107	0.9065	12.43	67.92
	(%)	0.01	0.01	0.92	0.07	0.01				
CR	(N)	2	0	171	2	1	176	0.9716	16.10	90.59
	(%)	0.01	0.0	0.98	0.01	0.01				
WE	(N)	42	24	2638	76	17	2798	0.9428	14.72	89.53
	(%)	0.02	0.01	0.96	0.03	0.01				
WC	(N)	40	32	3394	94	27	3589	0.9457	15.17	87.91
	(%)	0.01	0.01	0.96	0.03	0.01				
WS	(N)	32	41	3370	86	28	3557	0.9474	14.77	86.32
	(%)	0.01	0.01	0.96	0.02	0.01				
WW	(N)	24	20	1847	52	15	1958	0.9433	14.96	86.65
	(%)	0.01	0.01	0.96	0.03	0.01				
TOT	(N)	195	214	13795	466	151	14828	0.9303	14.30	83.01
	(%)	0.01	0.01	0.94	0.03	0.01				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-118

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM MC - 3

GROUP		NR	1	2	3	4*	N	P	MS	MT
AI	(N)	3	2	7	14	152	178	0.8539	13.68	70.14
	(%)	0.02	0.01	0.04	0.08	0.87				
AA	(N)	48	48	101	140	1555	1895	0.8206	11.00	60.38
	(%)	0.03	0.03	0.05	0.08	0.84				
MA	(N)	10	7	15	31	427	491	0.8697	12.96	67.72
	(%)	0.02	0.01	0.03	0.06	0.89				
PR	(N)	1	0	8	5	65	79	0.8228	11.06	60.10
	(%)	0.01	0.0	0.10	0.06	0.83				
CL	(N)	2	3	3	6	93	107	0.8692	12.43	67.92
	(%)	0.02	0.03	0.03	0.06	0.89				
CR	(N)	1	1	4	12	158	176	0.8977	16.10	90.59
	(%)	0.01	0.01	0.02	0.07	0.90				
WE	(N)	61	17	43	102	2574	2798	0.9199	14.72	89.53
	(%)	0.02	0.01	0.02	0.04	0.94				
WC	(N)	42	15	50	138	3342	3589	0.9312	15.17	87.91
	(%)	0.01	0.00	0.01	0.04	0.94				
WS	(N)	34	23	68	167	3265	3557	0.9179	14.77	86.32
	(%)	0.01	0.01	0.02	0.05	0.93				
WW	(N)	33	14	23	82	1806	1958	0.9224	14.96	86.65
	(%)	0.02	0.01	0.01	0.04	0.94				
TOT	(N)	235	130	322	697	13437	14828	0.9062	14.30	83.01
	(%)	0.02	0.01	0.02	0.05	0.92				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-119

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM MC - 4

GROUP		NR	1	2*	3	4	N	P	MS	MT
AI	(N)	2	8	151	15	2	178	0.8483	13.68	70.14
	(%)	0.01	0.05	0.86	0.09	0.01				
AA	(N)	55	122	1505	158	52	1895	0.7942	11.00	60.38
	(%)	0.03	0.07	0.82	0.09	0.03				
MA	(N)	10	19	417	34	10	491	0.8493	12.96	67.72
	(%)	0.02	0.04	0.87	0.07	0.02				
PR	(N)	3	5	67	4	0	79	0.8481	11.06	60.10
	(%)	0.04	0.07	0.88	0.05	0.0				
CL	(N)	2	4	88	10	3	107	0.8224	12.43	67.92
	(%)	0.02	0.04	0.84	0.10	0.03				
CR	(N)	2	2	163	8	1	176	0.9261	16.10	90.59
	(%)	0.01	0.01	0.94	0.05	0.01				
WE	(N)	57	49	2593	81	17	2798	0.9267	14.72	89.53
	(%)	0.02	0.02	0.95	0.03	0.01				
WC	(N)	52	52	3339	122	22	3589	0.9303	15.17	87.91
	(%)	0.01	0.01	0.94	0.03	0.01				
WS	(N)	42	78	3259	130	48	3557	0.9162	14.77	86.32
	(%)	0.01	0.02	0.93	0.04	0.01				
WW	(N)	27	22	1819	76	14	1958	0.9290	14.96	86.65
	(%)	0.01	0.01	0.94	0.04	0.01				
TOT	(N)	252	361	13401	638	169	14828	0.9038	14.30	83.01
	(%)	0.02	0.02	0.92	0.04	0.01				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-120
ITEM RESPONSE PATTERNS AND STATISTICS
ITEM MC - 5

GROUP		RESPONSE								
		NR	1	2	3*	4	N	P	MS	MT
AI	(N)	3	2	10	162	1	178	0.9101	13.68	70.14
	(%)	0.02	0.01	0.06	0.93	0.01				
AA	(N)	65	54	130	1577	66	1895	0.8322	11.00	60.38
	(%)	0.03	0.03	0.07	0.86	0.04				
MA	(N)	11	7	24	436	12	491	0.8880	12.96	67.72
	(%)	0.02	0.01	0.05	0.91	0.02				
PR	(N)	2	2	3	69	3	79	0.8734	11.06	60.10
	(%)	0.03	0.03	0.04	0.90	0.04				
CL	(N)	4	4	1	96	2	107	0.8972	12.43	67.92
	(%)	0.04	0.04	0.01	0.93	0.02				
CR	(N)	1	3	4	166	2	176	0.9432	16.10	90.59
	(%)	0.01	0.02	0.02	0.95	0.01				
WE	(N)	59	19	60	2641	18	2798	0.9439	14.72	89.53
	(%)	0.02	0.01	0.02	0.96	0.01				
WC	(N)	54	16	65	3419	33	3589	0.9526	15.17	87.91
	(%)	0.02	0.00	0.02	0.97	0.01				
WS	(N)	44	36	65	3357	35	3557	0.9438	14.77	86.32
	(%)	0.01	0.01	0.02	0.96	0.01				
WW	(N)	26	14	36	1864	18	1958	0.9520	14.96	86.65
	(%)	0.01	0.01	0.02	0.96	0.01				
TOT	(N)	269	157	418	13787	190	14828	0.9298	14.30	83.01
	(%)	0.02	0.01	0.03	0.95	0.01				

% NR = NR/(TOTAL N) % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-121

ITEM RESPONSE PATTERNS AND STATISTICS
ITEM MC - 6

GROUP		RESPONSE								
		NR	1	2*	3	4	N	P	MS	MT
AI	(N)	4	2	162	8	2	178	0.9101	13.68	70.14
	(%)	0.02	0.01	0.93	0.05	0.01				
AA	(N)	85	55	1567	130	55	1895	0.8269	11.00	60.38
	(%)	0.04	0.03	0.87	0.07	0.03				
MA	(N)	15	16	439	15	5	491	0.8941	12.96	67.72
	(%)	0.03	0.03	0.92	0.03	0.01				
PR	(N)	3	0	68	5	3	79	0.8608	11.06	60.10
	(%)	0.04	0.0	0.89	0.07	0.04				
CL	(N)	7	3	90	4	3	107	0.8411	12.43	67.92
	(%)	0.07	0.03	0.90	0.04	0.03				
CR	(N)	2	0	169	4	1	176	0.9602	16.10	90.59
	(%)	0.01	0.0	0.97	0.02	0.01				
WE	(N)	65	18	2641	51	22	2798	0.9439	14.72	89.53
	(%)	0.02	0.01	0.97	0.02	0.01				
WC	(N)	59	18	3420	65	25	3589	0.9529	15.17	87.91
	(%)	0.02	0.01	0.97	0.02	0.01				
WS	(N)	51	29	3346	103	28	3557	0.9407	14.77	86.32
	(%)	0.01	0.01	0.95	0.03	0.01				
WW	(N)	35	11	1850	41	21	1958	0.9448	14.96	86.65
	(%)	0.02	0.01	0.96	0.02	0.01				
TOT	(N)	326	152	13752	426	165	14828	0.9274	14.30	83.01
	(%)	0.02	0.01	0.95	0.03	0.01				

% NR = NR/(TOTAL N) % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-122
ITEM RESPONSE PATTERNS AND STATISTICS
ITEM MC - 7

GROUP		RESPONSE NR	1	2	3	4*	N	P	MS	MT
AI	(N)	7	4	4	2	161	178	0.9045	13.68	70.14
	(%)	0.04	0.02	0.02	0.01	0.94				
AA	(N)	124	46	63	89	1570	1895	0.8285	11.00	60.38
	(%)	0.07	0.03	0.04	0.05	0.89				
MA	(N)	23	4	9	13	441	491	0.8982	12.96	67.72
	(%)	0.05	0.01	0.02	0.03	0.94				
FR	(N)	4	1	2	1	71	79	0.8987	11.06	60.10
	(%)	0.05	0.01	0.03	0.01	0.95				
CL	(N)	6	0	8	5	88	107	0.8224	12.43	67.92
	(%)	0.06	0.0	0.08	0.05	0.87				
CR	(N)	2	1	1	1	171	176	0.9716	16.10	90.59
	(%)	0.01	0.01	0.01	0.01	0.98				
WE	(N)	71	14	21	30	2661	2798	0.9510	14.72	89.53
	(%)	0.03	0.01	0.01	0.01	0.98				
WC	(N)	64	17	25	40	3441	3589	0.9588	15.17	87.91
	(%)	0.02	0.00	0.01	0.01	0.98				
WS	(N)	63	28	47	46	3373	3557	0.9483	14.77	86.32
	(%)	0.02	0.01	0.01	0.01	0.97				
WW	(N)	38	5	16	27	1872	1958	0.9561	14.96	86.65
	(%)	0.02	0.00	0.01	0.01	0.97				
TOT	(N)	402	120	196	254	13849	14828	0.9340	14.30	83.01
	(%)	0.03	0.01	0.01	0.02	0.96				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-123

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM MC - 8

GROUP		RESPONSE NR	1	2	3	4*	N	P	MS	MT
AI	(N)	10	1	4	6	157	178	0.8820	13.68	70.14
	(%)	0.06	0.01	0.02	0.C4	0.93				
AA	(N)	212	67	65	96	1452	1895	0.7662	11.00	60.38
	(%)	0.11	0.04	0.04	0.C6	0.86				
MA	(N)	35	13	8	22	412	491	0.8391	12.96	67.72
	(%)	0.07	0.03	0.02	0.C5	0.90				
FR	(N)	8	0	2	4	65	79	0.8228	11.06	60.10
	(%)	0.10	C.C	0.03	0.C6	0.92				
CL	(N)	7	4	2	3	91	107	0.8505	12.43	67.92
	(%)	0.07	0.04	0.C2	0.C3	0.91				
CR	(N)	3	3	1	5	164	176	0.9318	16.10	90.59
	(%)	0.02	C.02	0.01	0.C3	C.95				
WE	(N)	92	25	25	61	2594	2798	0.9271	14.72	89.53
	(%)	0.03	0.01	0.01	0.C2	0.96				
WC	(N)	33	22	29	68	3385	3589	0.9432	15.17	87.91
	(%)	0.02	0.C1	0.01	0.C2	0.97				
WS	(N)	91	41	38	86	3301	3557	0.9280	14.77	86.32
	(%)	0.03	0.01	0.C1	0.C2	C.95				
WW	(N)	55	27	16	45	1815	1958	0.9270	14.96	86.65
	(%)	0.C3	C.C1	0.01	0.C2	C.95				
TOT	(N)	596	203	190	396	13436	14828	0.9061	14.30	83.01
	(%)	0.04	0.C1	0.01	0.03	0.94				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-124

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM MC - 9

GROUP		NR	1*	2	3	4	N	P	MS	MT
		RESPONSE								
AI	(N)	13	151	7	3	4	178	0.8483	13.68	70.14
	(%)	0.07	0.92	0.04	0.02	0.02				
AA	(N)	305	1349	96	88	54	1895	0.7119	11.00	60.38
	(%)	0.16	0.85	0.06	0.06	0.03				
MA	(N)	52	399	22	8	9	491	0.8126	12.96	67.72
	(%)	0.11	0.91	0.05	0.02	0.02				
PR	(N)	12	58	5	3	1	79	0.7342	11.06	60.10
	(%)	0.15	0.87	0.07	0.04	0.01				
OL	(N)	8	85	4	9	1	107	0.7944	12.43	67.92
	(%)	0.07	0.86	0.04	0.09	0.01				
CR	(N)	6	166	3	0	1	176	0.9432	16.10	90.59
	(%)	0.03	0.98	0.02	0.0	0.01				
WE	(N)	151	2540	59	21	26	2798	0.9078	14.72	89.53
	(%)	0.05	0.96	0.02	0.01	0.01				
WC	(N)	142	3288	82	42	33	3589	0.9161	15.17	87.91
	(%)	0.04	0.95	0.02	0.01	0.01				
WS	(N)	163	3182	121	42	49	3557	0.8946	14.77	86.32
	(%)	0.05	0.94	0.04	0.01	0.01				
WW	(N)	95	1776	50	16	21	1958	0.9070	14.96	86.65
	(%)	0.05	0.95	0.03	0.01	0.01				
TOT	(N)	947	12994	449	232	199	14828	0.8763	14.30	83.01
	(%)	0.06	0.94	0.03	0.02	0.01				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-125

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM MC -10

GROUP		NR	1*	2	3	4	N	P	MS	MT
		RESPONSE								
AI	(N)	13	147	9	8	1	178	0.8258	13.68	70.14
	(%)	0.07	0.89	0.05	0.05	0.01				
AA	(N)	431	1206	160	66	29	1895	0.6364	11.00	60.38
	(%)	0.23	0.82	0.11	0.05	0.02				
MA	(N)	73	377	29	8	3	491	0.7678	12.96	67.72
	(%)	0.15	0.90	0.07	0.02	0.01				
PR	(N)	19	53	6	1	0	79	0.6709	11.06	60.10
	(%)	0.24	0.88	0.10	0.02	0.0				
CL	(N)	13	87	3	3	1	107	0.8131	12.43	67.92
	(%)	0.12	0.93	0.03	0.03	0.01				
CR	(N)	6	159	10	0	1	176	0.9034	16.10	90.59
	(%)	0.03	0.94	0.06	0.0	0.01				
WE	(N)	203	2416	140	29	9	2798	0.8635	14.72	89.53
	(%)	0.07	0.93	0.05	0.01	0.00				
WC	(N)	179	3187	178	30	13	3589	0.8880	15.17	87.91
	(%)	0.05	0.93	0.05	0.01	0.00				
WS	(N)	229	3082	174	56	16	3557	0.8665	14.77	86.32
	(%)	0.06	0.93	0.05	0.02	0.00				
WW	(N)	141	1699	93	20	5	1958	0.8677	14.96	86.65
	(%)	0.07	0.94	0.05	0.01	0.00				
.TOT	(N)	1307	12413	802	221	78	14828	0.8371	14.30	83.01
	(%)	0.09	0.92	0.06	0.02	0.01				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-126

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM MC -11

GROUP		RESPONSE								
		NR	1*	2	3	4	N	P	MS	MT
AI	(N)	22	139	13	3	1	178	0.7809	13.68	70.14
	(%)	0.12	0.89	0.08	0.02	0.01				
AA	(N)	575	1097	100	81	39	1895	0.5789	11.00	60.38
	(%)	0.30	0.83	0.08	0.06	0.03				
MA	(N)	87	373	14	10	6	491	0.7597	12.96	67.72
	(%)	0.18	0.92	0.03	0.02	0.01				
PR	(N)	29	44	0	6	0	79	0.5570	11.06	60.10
	(%)	0.37	0.88	0.0	0.12	0.0				
CL	(N)	19	77	5	6	0	107	0.7196	12.43	67.92
	(%)	0.18	0.88	0.06	0.07	0.0				
CR	(N)	9	155	8	2	2	176	0.8807	16.10	90.59
	(%)	0.05	0.93	0.05	0.01	0.01				
WE	(N)	279	2406	61	37	14	2798	0.8599	14.72	89.53
	(%)	0.10	0.96	0.02	0.01	0.01				
WC	(N)	258	3180	89	43	17	3589	0.8860	15.17	87.91
	(%)	0.07	0.95	0.03	0.01	0.01				
WS	(N)	347	3040	105	50	15	3557	0.8547	14.77	86.32
	(%)	0.10	0.95	0.03	0.02	0.00				
WW	(N)	207	1681	40	25	5	1958	0.8585	14.96	86.65
	(%)	0.11	0.96	0.02	0.01	0.00				
TOT	(N)	1832	12192	435	263	99	14828	0.8222	14.30	83.01
	(%)	0.12	0.94	0.03	0.02	0.01				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-127

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM MC -12

GROUP		RESPONSE NR	1	2	3*	4	N	P	MS	MT
AI	(N)	31	3	5	131	8	178	0.7360	13.68	70.14
	(%)	0.17	0.02	0.03	0.89	0.05				
AA	(N)	705	44	101	973	69	1895	0.5135	11.00	60.38
	(%)	0.37	0.04	0.08	0.82	0.06				
MA	(N)	115	8	19	334	14	491	0.6802	12.96	67.72
	(%)	0.23	0.02	0.05	0.89	0.04				
PR	(N)	32	0	7	37	3	79	0.4684	11.06	60.10
	(%)	0.41	0.0	0.15	0.79	0.06				
CL	(N)	28	2	4	69	4	107	0.6449	12.43	67.92
	(%)	0.26	0.03	0.05	0.87	0.05				
CR	(N)	14	0	2	156	4	176	0.8864	16.10	90.59
	(%)	0.08	0.0	0.01	0.96	0.02				
WE	(N)	392	23	56	2285	41	2798	0.8167	14.72	89.53
	(%)	0.14	0.01	0.02	0.95	0.02				
WC	(N)	391	28	68	3036	64	3589	0.8459	15.17	87.91
	(%)	0.11	0.01	0.02	0.95	0.02				
WS	(N)	495	37	92	2882	51	3557	0.8102	14.77	86.32
	(%)	0.14	0.01	0.03	0.94	0.02				
WW	(N)	272	20	42	1588	36	1958	0.8110	14.96	86.65
	(%)	0.14	0.01	0.02	0.94	0.02				
TOT	(N)	2475	165	396	11491	294	14828	0.7750	14.30	83.01
	(%)	0.17	0.01	0.03	0.93	0.02				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-128

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM MC -13

GROUP		RESPONSE								
		NR	1*	2	3	4	N	P	MS	MT
AI	(N)	42	128	4	4	0	178	0.7191	13.68	70.14
	(%)	0.24	0.94	0.03	0.03	0.0				
AA	(N)	830	913	45	69	35	1895	0.4818	11.00	60.38
	(%)	0.44	0.86	0.04	0.06	0.03				
MA	(N)	150	317	10	7	6	491	0.6456	12.96	67.72
	(%)	0.31	0.93	0.03	0.02	0.02				
PR	(N)	43	33	1	2	0	79	0.4177	11.06	60.10
	(%)	0.54	0.92	0.03	0.06	0.0				
CL	(N)	38	62	4	2	1	107	0.5794	12.43	67.92
	(%)	0.36	0.90	0.06	0.03	0.01				
CR	(N)	19	151	1	3	2	176	0.8580	16.10	90.59
	(%)	0.11	0.96	0.01	0.02	0.01				
WF	(N)	529	2185	42	27	14	2798	0.7809	14.72	89.53
	(%)	0.19	0.96	0.02	0.01	0.01				
WC	(N)	562	2921	61	27	16	3589	0.8139	15.17	87.91
	(%)	0.16	0.96	0.02	0.01	0.01				
WS	(N)	668	2750	75	26	38	3557	0.7731	14.77	86.32
	(%)	0.19	0.95	0.03	0.01	0.01				
WW	(N)	358	1549	27	12	12	1958	0.7911	14.96	86.65
	(%)	0.18	0.97	0.02	0.01	0.01				
TOT	(N)	3239	11009	270	179	124	14828	0.7424	14.30	83.01
	(%)	0.22	0.95	0.02	0.02	0.01				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-129

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM MC -14

GROUP		NR	RESPONSE 1	2	3	4*	N	P	MS	MT
AI	(N)	53	2	3	6	114	178	0.6404	13.68	70.14
	(%)	0.30	0.02	0.02	0.05	0.91				
AA	(N)	965	25	55	84	763	1895	0.4026	11.00	60.38
	(%)	0.51	0.03	0.06	0.09	0.82				
MA	(N)	183	7	9	18	273	491	0.5560	12.96	67.72
	(%)	0.37	0.02	0.03	0.06	0.89				
PR	(N)	45	0	1	2	31	79	0.3924	11.06	60.10
	(%)	0.57	0.0	0.03	0.06	0.91				
CL	(N)	47	0	2	6	52	107	0.4860	12.43	67.92
	(%)	0.44	0.0	0.03	0.10	0.87				
CR	(N)	28	0	2	2	144	176	0.8182	16.10	90.59
	(%)	0.16	0.0	0.01	0.01	0.97				
WE	(N)	727	12	32	51	1975	2798	0.7059	14.72	89.53
	(%)	0.26	0.01	0.02	0.02	0.95				
WC	(N)	787	17	49	55	2679	3589	0.7464	15.17	87.91
	(%)	0.22	0.01	0.02	0.02	0.96				
WS	(N)	906	17	43	91	2500	3557	0.7028	14.77	86.32
	(%)	0.25	0.01	0.02	0.03	0.94				
WW	(N)	491	6	18	40	1403	1958	0.7165	14.96	86.65
	(%)	0.25	0.00	0.01	0.03	0.96				
TOT	(N)	4232	86	214	355	9934	14828	0.6699	14.30	83.01
	(%)	0.29	0.01	0.02	0.03	0.94				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-130
ITEM RESPONSE PATTERNS AND STATISTICS
ITEM MC -15

		RESPONSE								
GROUP		NR	1	2*	3	4	N	P	MS	MT
AI	(N)	72	3	93	9	1	178	0.5225	13.68	70.14
	(%)	0.40	0.03	0.88	0.08	0.01				
AA	(N)	1158	55	581	58	40	1895	0.3066	11.00	60.38
	(%)	0.61	0.07	0.79	0.08	0.05				
MA	(N)	233	6	232	14	5	491	0.4725	12.96	67.72
	(%)	0.47	0.02	0.90	0.05	0.02				
PR	(N)	49	1	25	4	0	79	0.3165	11.06	60.10
	(%)	0.62	0.03	0.83	0.13	0.0				
CL	(N)	58	1	45	0	3	107	0.4206	12.43	67.92
	(%)	0.54	0.02	0.92	0.0	0.06				
CR	(N)	39	2	131	2	2	176	0.7443	16.10	90.59
	(%)	0.22	0.01	0.96	0.01	0.01				
WE	(N)	972	31	1734	41	19	2798	0.6197	14.72	89.53
	(%)	0.35	0.02	0.95	0.02	0.01				
WC	(N)	1100	49	2368	48	22	3589	0.6598	15.17	87.91
	(%)	0.31	0.02	0.95	0.02	0.01				
WS	(N)	1228	49	2199	60	21	3557	0.6182	14.77	86.32
	(%)	0.35	0.02	0.94	0.03	0.01				
WW	(N)	624	26	1278	23	7	1958	0.6527	14.96	86.65
	(%)	0.32	0.02	0.96	0.02	0.01				
TOT	(N)	5533	223	8686	259	120	14828	0.5858	14.30	83.01
	(%)	0.37	0.02	0.93	0.03	0.01				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-131

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM MC -16

GROUP		NR	1*	2	3	4	N	P	MS	MT
		RESPONSE								
AI	(N)	93	76	4	4	1	178	0.4270	13.68	70.14
	(%)	0.52	0.89	0.05	0.05	0.01				
AA	(N)	1286	465	59	57	25	1895	0.2454	11.00	60.38
	(%)	0.68	0.76	0.10	0.09	0.04				
MA	(N)	278	186	10	12	4	491	0.3788	12.96	67.72
	(%)	0.57	0.87	0.05	0.06	0.02				
PR	(N)	57	20	1	0	1	79	0.2532	11.06	60.10
	(%)	0.72	0.91	0.05	0.0	0.05				
CL	(N)	65	37	1	1	3	107	0.3458	12.43	67.92
	(%)	0.61	0.88	0.02	0.02	0.07				
CR	(N	53	118	3	1	1	176	0.6705	16.10	90.59
	(%)	0.30	0.96	0.02	0.01	0.01				
WE	(N)	1268	1432	55	17	25	2798	0.5118	14.72	89.53
	(%)	0.45	0.94	0.04	0.01	0.02				
WC	(N)	1467	1992	66	42	20	3589	0.5550	15.17	87.91
	(%)	0.41	0.94	0.03	0.02	0.01				
WS	(N)	1545	1848	71	52	41	3557	0.5195	14.77	86.32
	(%)	0.43	0.92	0.04	0.03	0.02				
WW	(N)	823	1054	45	20	16	1958	0.5383	14.96	86.65
	(%)	0.42	0.93	0.04	0.02	0.01				
TOT	(N)	6935	7228	315	206	137	14828	0.4875	14.30	83.01
	(%)	0.47	0.92	0.04	0.03	0.02				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-132

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM MC -17

GROUP		RESPONSE					N	P	MS	MT
		NR	1	2	3	4*				
AI	(N)	101	4	4	5	64	178	0.3596	13.68	70.14
	(%)	0.57	0.05	0.05	0.06	0.83				
AA	(N)	1379	26	35	61	391	1895	0.2063	11.00	60.38
	(%)	0.73	0.05	0.07	0.12	0.76				
MA	(N)	310	3	5	7	165	491	0.3360	12.96	67.72
	(%)	0.63	0.02	0.03	0.04	0.91				
PR	(N)	61	1	1	1	15	79	0.1899	11.06	60.10
	(%)	0.77	0.06	0.06	0.06	0.83				
CL	(N)	75	1	0	2	29	107	0.2710	12.43	67.92
	(%)	0.70	0.03	0.0	0.06	0.91				
CR	(N)	64	0	2	7	103	176	0.5852	16.10	90.59
	(%)	0.36	0.0	0.02	0.06	0.92				
WE	(N)	1491	14	12	58	1222	2798	0.4367	14.72	89.53
	(%)	0.53	0.01	0.01	0.04	0.93				
WC	(N)	1786	11	33	71	1686	3589	0.4698	15.17	87.91
	(%)	0.50	0.01	0.02	0.04	0.94				
WS	(N)	1844	24	37	59	1593	3557	0.4478	14.77	86.32
	(%)	0.52	0.01	0.02	0.03	0.93				
WW	(N)	998	9	10	27	914	1958	0.4668	14.96	86.65
	(%)	0.51	0.01	0.01	0.03	0.95				
TOT	(N)	8109	93	139	298	6182	14828	0.4169	14.30	83.01
	(%)	0.55	0.01	0.02	0.04	0.92				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-133

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM MC -18

GROUP		NR	1	2	3	4*	N	P	MS	MT
		RESPONSE								
AI	(N)	115	3	3	3	54	178	0.3034	13.68	70.14
	(%)	0.65	0.05	0.05	0.05	0.86				
AA	(N)	1502	24	34	61	271	1895	0.1430	11.00	60.38
	(%)	0.79	0.06	0.09	0.16	0.69				
MA	(N)	352	3	7	20	108	491	0.2200	12.96	67.72
	(%)	0.72	0.02	0.05	0.14	0.78				
FR	(N)	73	1	0	0	5	79	0.0633	11.06	60.10
	(%)	0.92	0.17	0.0	0.0	0.83				
CL	(N)	79	0	3	4	21	107	0.1963	12.43	67.92
	(%)	0.74	0.0	0.11	0.14	0.75				
CR	(N)	83	1	2	4	86	176	0.4886	16.10	90.59
	(%)	0.47	0.01	0.02	0.04	0.92				
WE	(N)	1843	6	19	68	861	2798	0.3077	14.72	89.53
	(%)	0.66	0.01	0.02	0.07	0.90				
WC	(N)	2170	10	18	100	1288	3589	0.3589	15.17	87.91
	(%)	0.60	0.01	0.01	0.07	0.91				
WS	(N)	2233	24	37	109	1154	3557	0.3244	14.77	86.32
	(%)	0.63	0.02	0.03	0.08	0.87				
WW	(N)	1214	4	13	50	677	1958	0.3458	14.96	86.65
	(%)	0.62	0.01	0.02	0.07	0.91				
TOT	(N)	9664	76	136	419	4525	14828	0.3052	14.30	83.01
	(%)	0.65	0.01	0.03	0.08	0.88				

% NR = NR/(TOTAL N)　　% RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-134

ITEM RESPONSE PATTERNS AND STATISTICS

ITEM MC -19

GROUP		NR	1	2	3*	4	N	P	MS	MT
		RESPONSE								
AI	(N)	134	2	2	38	2	178	0.2135	13.68	70.14
	(%)	0.75	0.05	0.05	0.86	0.05				
AA	(N)	1591	8	43	231	19	1895	0.1219	11.00	60.38
	(%)	0.84	0.03	0.14	0.76	0.06				
MA	(N)	399	4	5	77	5	491	0.1568	12.96	67.72
	(%)	0.81	0.04	0.05	0.84	0.05				
PR	(N)	75	0	0	4	0	79	0.0506	11.06	60.10
	(%)	0.95	0.0	0.0	1.00	0.0				
CL	(N)	87	1	2	17	0	107	0.1589	12.43	67.92
	(%)	0.81	0.05	0.10	0.85	0.0				
CR	(N)	99	0	1	76	0	176	0.4318	16.10	90.59
	(%)	0.56	0.0	0.01	0.99	0.0				
WE	(N)	2112	1	14	663	7	2798	0.2370	14.72	89.53
	(%)	0.75	0.00	0.02	0.97	0.01				
WC	(N)	2584	4	34	950	15	3589	0.2647	15.17	87.91
	(%)	0.72	0.00	0.03	0.95	0.01				
WS	(N)	2555	19	35	937	11	3557	0.2634	14.77	86.32
	(%)	0.72	0.02	0.03	0.94	0.01				
WW	(N)	1400	2	12	533	11	1958	0.2722	14.96	86.65
	(%)	0.72	0.00	0.02	0.96	0.02				
TOT	(N)	11036	41	148	3526	70	14828	0.2378	14.30	83.01
	(%)	0.74	0.01	0.04	0.93	0.02				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

TABLE E-135
ITEM RESPONSE PATTERNS AND STATISTICS
ITEM MC -20

GROUP		RESPONSE								
		NR	1	2	3*	4	N	P	MS	MT
AI	(N)	140	2	3	32	1	178	0.1798	13.68	70.14
	(%)	0.79	0.05	0.08	0.84	0.03				
AA	(N)	1650	15	29	179	19	1895	0.0945	11.00	60.38
	(%)	0.87	0.06	0.12	0.73	0.08				
MA	(N)	416	2	4	64	4	491	0.1303	12.96	67.72
	(%)	0.85	0.03	0.05	0.85	0.05				
PR	(N)	75	0	0	4	0	79	0.0506	11.06	60.10
	(%)	0.95	0.0	0.0	1.00	0.0				
CL	(N)	92	1	1	12	1	107	0.1121	12.43	67.92
	(%)	0.86	0.07	0.07	0.80	0.07				
CR	(N)	116	0	0	60	0	176	0.3409	16.10	90.59
	(%)	0.66	0.0	0.0	1.00	0.0				
WE	(N)	2268	8	10	502	9	2798	0.1794	14.72	89.53
	(%)	0.81	0.02	0.02	0.95	0.02				
WC	(N)	2805	8	21	733	20	3589	0.2042	15.17	87.91
	(%)	0.78	0.01	0.03	0.93	0.03				
WS	(N)	2749	3	33	748	24	3557	0.2103	14.77	86.32
	(%)	0.77	0.00	0.04	0.93	0.03				
WW	(N)	1527	0	10	409	12	1958	0.2089	14.96	86.65
	(%)	0.78	0.0	0.02	0.95	0.03				
TOT	(N)	11838	39	111	2743	90	14828	0.1850	14.30	83.01
	(%)	0.80	0.01	0.04	0.92	0.03				

% NR = NR/(TOTAL N)   % RESPONSE = N CHOOSING RESPONSE/(TOTAL RESPONDING)

APPENDIX F

Item Deltas

TABLE F-1

ITEM DELTAS BY GROUP
VOCABULARY

ITEM	AI	AA	MA	PR	OL	OR	WE	WC	WS	WW	ITEM MEAN	ITEM S.D.
I- 1	10.34	10.74	10.73	9.30	10.21	8.29	7.28	7.52	7.77	7.50	8.97	1.37
I- 2	14.93	14.76	14.55	15.50	12.39	12.37	12.09	12.97	12.95	11.77	13.43	1.29
I- 3	12.49	13.23	12.49	12.04	12.20	9.78	9.09	9.64	10.19	9.49	11.06	1.48
I- 4	14.14	14.60	13.80	12.17	11.81	11.24	10.20	11.45	12.37	10.88	12.27	1.39
I- 5	11.20	11.41	12.22	11.64	12.10	9.78	8.52	8.59	8.48	8.45	10.24	1.54
I- 6	13.28	13.93	13.55	13.32	12.95	12.77	12.00	12.18	12.33	12.30	12.86	0.62
I- 7	14.50	14.93	15.05	15.50	14.79	12.26	11.29	12.07	12.58	11.58	13.45	1.55
I- 8	15.52	16.53	16.40	17.34	15.79	14.09	13.80	13.98	14.43	14.17	15.20	1.21
I- 9	14.80	15.77	15.00	16.15	14.38	13.98	12.90	13.22	13.59	12.70	14.25	1.12
I-10	14.74	15.74	15.92	15.50	15.55	13.63	12.86	13.14	13.32	12.81	14.32	1.22
I-11	16.02	16.95	16.61	18.73	16.70	14.27	13.65	14.24	14.95	14.05	15.62	1.56
I-12	17.02	17.06	17.20	17.34	17.32	14.95	14.20	14.82	15.08	14.91	15.99	1.22
I-13	15.25	16.15	15.71	15.98	14.48	14.64	14.54	14.91	14.84	14.67	15.12	0.59
I-14	15.45	16.27	15.61	16.51	14.59	15.42	14.24	15.11	14.93	14.95	15.31	0.67
I-15	15.52	17.01	16.14	15.82	14.79	14.09	12.94	14.00	14.07	13.45	14.78	1.23
GROUP												
MEAN	14.35	15.01	14.73	14.86	14.00	12.77	11.97	12.52	12.79	12.25		
S.D.	1.753	1.898	1.776	2.502	1.923	2.066	2.180	2.254	2.235	2.254		

***** ITEM DELTAS COMPUTED ONLY IF (1) .05 ≤ P ≤ .95
AND (2) MORE THAN 50% OF THE GROUP RESPONDED TO THE ITEM

TABLE F-2

ITEM DELTAS BY GROUP

PICTURE-NUMBER

ITEM	AI	AA	MA	PR	OL	OR	WE	WC	WS	WW	ITEM MEAN	ITEM S.D.
I- 1	12.03	12.06	11.45	12.04	12.10	10.98	10.78	11.18	10.94	11.31	11.49	0.50
I- 2	11.07	12.07	11.04	11.23	10.89	9.93	10.05	9.99	9.94	10.30	10.65	0.68
I- 3	10.20	11.05	10.05	10.18	10.21	10.01	9.60	9.75	9.55	9.78	10.04	0.41
I- 4	11.92	12.77	11.65	12.30	11.81	11.55	10.87	10.97	10.93	11.22	11.60	0.59
I- 5	14.44	14.87	13.74	15.50	13.71	13.34	13.24	13.24	12.96	13.69	13.87	0.77
I- 6	14.02	14.80	13.93	15.05	14.29	13.17	13.24	13.30	13.18	13.58	13.86	0.65
I- 7	11.86	12.84	11.69	12.43	11.31	11.05	10.43	10.69	10.48	10.96	11.37	0.78
I- 8	12.94	13.81	12.43	13.70	12.77	11.36	11.99	11.94	11.76	12.09	12.48	0.77
I- 9	13.28	*****	13.55	14.09	14.69	12.83	12.94	12.70	12.78	12.89	13.31	0.65
I-10	13.85	*****	13.78	*****	14.69	13.17	12.80	12.88	12.75	13.37	13.41	0.62
I-11	13.51	*****	13.78	*****	13.42	12.20	12.49	12.65	12.72	13.03	12.98	0.52
I-12	14.20	*****	*****	*****	*****	13.46	13.16	13.19	13.15	13.58	13.46	0.37
I-13	13.17	*****	*****	*****	13.52	11.36	11.91	12.03	12.25	12.41	12.38	0.69
I-14	*****	*****	*****	*****	*****	11.79	12.25	12.43	12.51	12.78	12.35	0.33
I-15	*****	*****	*****	*****	*****	12.49	12.98	12.86	13.05	13.24	12.92	0.25
I-16	10.94	11.25	11.36	10.95	11.00	9.93	10.36	10.42	10.20	10.67	10.71	0.45
I-17	11.92	13.09	12.32	13.32	12.29	11.91	11.21	11.57	11.30	11.79	12.07	0.67
I-18	8.26	9.36	8.84	8.18	8.51	8.17	7.86	8.44	8.24	8.41	8.43	0.39
I-19	13.11	13.12	12.88	13.57	13.14	11.67	11.84	12.03	11.82	12.27	12.54	0.66
I-20	12.49	13.42	12.98	14.49	13.42	12.49	12.29	12.55	12.15	12.78	12.91	0.67
I-21	12.55	12.85	12.11	13.19	12.48	11.42	11.57	11.29	11.42	11.89	12.08	0.63
I-22	12.09	12.89	12.49	13.44	12.20	11.17	11.37	11.50	11.34	11.90	12.04	0.70
I-23	12.83	13.96	13.08	15.20	13.33	11.55	12.26	11.99	11.94	12.53	12.87	1.04
I-24	11.26	12.61	11.41	12.43	11.91	10.44	10.44	10.58	10.57	10.90	11.25	0.78
I-25	15.19	15.71	14.82	*****	15.11	14.45	14.22	14.29	14.09	14.48	14.71	0.51
I-26	12.66	14.02	12.69	13.70	12.67	11.91	11.91	11.88	11.90	11.98	12.53	0.74
I-27	13.68	*****	13.99	*****	13.90	12.60	12.62	12.62	12.66	13.05	13.14	0.57
I-28	13.79	*****	13.57	*****	13.71	12.77	12.64	12.57	12.78	12.92	13.09	0.47
I-29	13.34	*****	13.22	14.63	14.69	13.11	12.15	12.31	12.28	12.75	13.16	0.90
I-30	13.00	*****	13.06	*****	12.86	11.73	11.80	12.04	12.04	12.42	12.37	0.51
GROUP												
MEAN	12.63	12.97	12.54	12.98	12.76	11.80	11.78	11.86	11.79	12.17		
S.D.	1.403	1.434	1.315	1.783	1.489	1.277	1.290	1.207	1.246	1.275		

***** ITEM DELTAS COMPUTED ONLY IF (1) $.05 \leq P \leq .95$
AND (2) MORE THAN 50% OF THE GROUP RESPONDED TO THE ITEM

TABLE F-3

ITEM DELTAS BY GROUP

READING

ITEM	AI	AA	MA	PR	GL	OR	WE	WC	WS	WW	ITEM MEAN	ITEM S.D.
I- 1	11.13	11.05	11.04	11.09	11.11	9.62	8.44	8.80	8.92	8.87	10.01	1.11
I- 2	12.49	11.76	11.32	11.51	12.10	10.37	9.74	10.20	10.14	9.86	10.95	0.95
I- 3	10.48	10.07	9.86	9.85	10.45	7.52	7.83	8.20	8.01	8.46	9.07	1.11
I- 4	12.21	12.04	12.61	12.68	12.48	10.72	10.44	10.92	10.88	10.84	11.58	0.85
I- 5	13.06	12.07	12.57	11.91	12.10	10.30	10.42	10.68	10.48	10.52	11.41	0.98
I- 6	11.56	12.40	11.88	11.64	11.71	9.10	9.47	9.57	9.50	9.41	10.63	1.24
I- 7	14.56	15.61	14.73	15.20	14.59	12.77	12.51	12.64	12.87	12.62	13.81	1.17
I- 8	14.26	15.08	14.40	15.35	14.09	11.24	11.67	12.00	12.06	11.92	13.21	1.49
I- 9	13.91	14.21	15.19	15.20	14.48	12.77	11.78	12.22	12.38	12.62	13.48	1.20
I-10	13.45	13.85	14.03	13.70	13.90	11.79	11.70	12.02	12.02	11.64	12.81	0.99
I-11	14.32	15.06	15.05	14.77	14.69	12.54	12.36	12.95	13.00	12.70	13.74	1.07
I-12	10.88	11.20	10.81	11.23	10.89	9.28	8.60	9.13	8.89	9.08	10.00	1.03
I-13	13.73	14.67	13.89	14.49	14.29	12.26	11.48	11.48	11.64	11.25	12.92	1.34
I-14	16.25	16.73	16.61	15.50	17.00	14.76	14.28	14.94	14.97	14.51	15.55	0.96
I-15	17.21	17.37	17.2[illegible]	16.15	16.16	16.63	15.85	15.99	15.63	15.78	16.40	0.62
I-16	14.56	15.51	15.61	15.66	15.67	13.69	12.94	12.72	12.75	12.46	14.16	1.31
I-17	14.99	15.82	15.43	15.20	15.33	13.98	14.26	14.62	14.51	14.25	14.84	0.57
I-18	12.72	14.51	13.72	15.05	13.80	11.17	10.97	11.10	11.17	11.08	12.53	1.54
I-19	15.39	16.67	15.97	16.90	15.79	14.33	13.68	14.10	14.25	14.00	15.11	1.12
I-20	15.39	16.90	16.14	17.11	16.56	14.04	13.51	13.58	13.69	13.42	15.03	1.46
GROUP												
MEAN	13.63	14.13	13.90	14.01	13.86	11.94	11.60	11.89	11.89	11.76		
S.D.	1.774	2.150	2.061	2.087	1.924	2.202	2.097	2.074	2.093	1.990		

***** ITEM DELTAS COMPUTED ONLY IF (1) .05 ≤ P ≤ .95
AND (2) MORE THAN 50% OF THE GROUP RESPONDED TO THE ITEM

TABLE F-4

ITEM DELTAS BY GROUP

LETTER GROUPS

ITEM	AI	AA	MA	PR	OL	OR	WE	WC	WS	WW	ITEM MEAN	ITEM S.D.
I- 1	9.25	9.61	9.52	8.89	10.09	7.37	7.42	7.20	7.82	7.40	8.46	1.06
I- 2	13.34	13.06	12.98	13.44	12.67	11.36	10.81	11.31	11.47	11.39	12.18	0.95
I- 3	9.07	10.28	10.03	10.65	9.97	7.79	7.81	8.19	8.52	8.35	9.07	1.03
I- 4	7.63	9.20	8.87	8.43	8.33	6.67	*****	6.48	*****	*****	7.95	0.98
I- 5	13.51	13.59	12.82	13.06	12.29	10.37	10.10	10.50	10.85	10.38	11.75	1.36
I- 6	9.07	9.54	9.08	9.10	9.30	6.67	6.98	7.03	7.06	7.31	8.11	1.12
I- 7	12.83	12.64	12.20	11.64	12.29	9.54	10.03	10.42	10.72	10.28	11.26	1.14
I- 8	12.44	13.30	12.73	13.32	12.29	10.72	10.25	10.47	11.39	11.11	11.80	1.10
I- 9	12.89	13.43	13.00	13.19	13.71	10.58	10.79	10.91	11.24	10.94	12.07	1.20
I-10	11.07	10.68	10.34	10.65	10.67	8.51	8.38	8.56	8.67	8.85	9.64	1.06
I-11	11.62	11.99	11.78	12.17	12.67	10.16	9.49	9.66	10.00	9.47	10.90	1.19
I-12	7.90	9.24	8.80	8.89	9.00	*****	*****	6.53	6.90	7.02	8.04	1.02
I-13	9.34	9.65	9.39	9.10	9.84	*****	7.48	7.55	7.87	7.68	8.66	0.93
I-14	12.78	13.14	12.28	13.32	12.95	9.93	9.97	10.44	10.54	10.38	11.57	1.36
I-15	10.75	12.24	10.93	11.37	11.41	8.29	9.15	9.17	9.60	9.15	10.21	1.23
I-16	11.80	12.43	12.01	13.32	11.81	8.72	8.89	9.35	9.70	9.38	10.74	1.60
I-17	11.44	12.64	12.14	12.17	11.81	9.37	9.05	9.33	9.62	9.54	10.71	1.37
I-18	13.06	12.94	12.61	13.96	12.77	10.72	11.11	11.15	11.71	11.64	12.17	0.99
I-19	14.08	14.62	14.20	15.50	14.89	12.20	12.57	12.45	12.66	12.53	13.57	1.15
I-20	11.74	12.90	12.28	14.36	12.67	8.91	9.57	9.58	9.97	9.84	11.18	1.74
I-21	13.39	14.79	14.27	15.35	13.71	10.98	11.47	11.73	11.92	11.86	12.95	1.46
I-22	15.45	16.67	16.19	*****	16.42	14.27	14.45	14.49	14.84	14.82	15.29	0.87
I-23	16.75	18.29	17.77	*****	18.28	15.84	16.01	16.17	16.64	15.94	16.86	0.95
I-24	13.68	15.63	14.84	*****	14.59	12.31	12.65	12.61	13.08	13.03	13.60	1.09
I-25	15.06	*****	16.40	*****	16.16	13.74	14.10	13.84	14.55	14.56	14.80	0.94
GROUP												
MEAN	12.00	12.60	12.30	11.99	12.42	10.22	10.37	10.20	10.72	10.54		
S.D.	2.290	2.321	2.360	2.137	2.367	2.307	2.292	2.423	2.397	2.350		

***** ITEM DELTAS COMPUTED ONLY IF (1) .05 ≤ P ≤ .95
AND (2) MORE THAN 50% OF THE GROUP RESPONDED TO THE ITEM

TABLE F-5

ITEM DELTAS BY GROUP
MATHEMATICS

ITEM	AI	AA	MA	PR	OL	OR	WE	WC	WS	WW	ITEM MEAN	ITEM S.D.
I- 1	10.88	11.49	11.56	10.95	11.21	8.29	8.52	8.52	8.86	9.09	9.94	1.31
I- 2	10.61	11.15	10.69	11.09	10.21	9.28	9.77	10.17	10.09	10.27	10.33	0.54
I- 3	10.55	11.32	10.52	11.23	10.56	8.82	8.45	8.77	8.63	8.86	9.77	1.10
I- 4	10.88	11.43	10.64	11.23	10.78	9.19	9.09	8.88	9.14	8.76	10.00	1.02
I- 5	13.85	13.41	12.92	13.70	12.86	8.82	10.11	10.35	10.24	10.41	11.67	1.76
I- 6	11.56	12.39	12.30	12.04	12.39	10.79	9.53	9.19	9.88	9.88	11.00	1.22
I- 7	11.26	12.47	12.36	12.56	12.10	9.45	9.51	9.59	10.07	9.89	10.93	1.28
I- 8	13.51	14.39	13.91	13.83	13.80	10.30	11.39	11.62	11.68	11.75	12.62	1.34
I- 9	11.92	12.37	11.82	13.19	12.01	10.08	9.89	10.14	10.29	10.36	11.21	1.12
I-10	13.34	14.30	13.70	14.49	13.80	10.01	11.51	11.69	11.63	11.78	12.62	1.41
I-11	13.06	14.54	13.80	14.49	13.33	12.20	11.60	11.68	11.87	11.93	12.85	1.09
I-12	13.39	12.71	12.38	12.81	12.77	9.10	10.43	10.69	10.76	10.60	11.56	1.34
I-13	13.39	14.07	13.33	14.77	12.86	9.70	10.84	11.13	11.36	11.40	12.29	1.54
I-14	12.32	14.01	12.73	13.32	12.10	10.37	10.64	10.68	11.07	10.78	11.80	1.21
I-15	13.85	14.07	14.48	14.22	14.79	11.42	11.97	11.99	12.27	12.33	13.14	1.19
I-16	14.99	15.09	14.08	14.77	13.99	10.08	11.81	12.25	11.90	12.36	13.13	1.60
I-17	13.73	14.01	13.64	15.20	13.23	9.86	11.46	11.76	11.69	11.85	12.64	1.50
I-18	14.14	14.77	14.62	15.35	15.11	12.37	12.13	12.23	12.58	12.48	13.58	1.26
I-19	14.08	14.42	13.95	15.05	12.95	11.24	12.21	12.20	12.49	12.55	13.11	1.14
I-20	14.20	15.05	14.57	15.50	14.48	11.79	11.50	11.57	11.85	11.90	13.24	1.56
I-21	15.39	16.44	15.21	16.33	14.48	11.17	12.55	12.83	12.97	13.37	14.08	1.67
I-22	15.45	16.29	15.53	15.98	14.69	11.55	12.66	12.75	13.14	12.94	14.10	1.59
I-23	15.66	16.38	16.11	16.70	16.16	12.77	13.53	13.83	13.88	13.97	14.90	1.36
I-24	15.73	16.64	15.79	17.57	15.91	13.51	13.29	13.40	13.61	13.68	14.91	1.50
I-25	15.52	15.78	15.26	15.98	15.44	12.43	13.30	13.62	13.79	14.13	14.53	1.16
GROUP												
MEAN	13.33	13.96	13.44	14.09	13.28	10.58	11.11	11.26	11.43	11.49		
S.D.	1.648	1.654	1.585	1.824	1.607	1.377	1.443	1.497	1.478	1.527		

***** ITEM DELTAS COMPUTED ONLY IF (1) $.05 \leq P \leq .95$
AND (2) MORE THAN 50% OF THE GROUP RESPONDED TO THE ITEM

TABLE F-6

ITEM DELTAS BY GROUP
MOSAIC COMPARISONS

ITEM	AI	AA	MA	PR	OL	OR	WE	WC	WS	WW	ITEM MEAN	ITEM S.D.
I- 1	7.63	9.05	7.78	8.43	8.33	6.67	6.75	6.69	6.84	6.48	7.46	0.86
I- 2	7.77	8.88	7.87	7.90	7.72	*****	6.67	6.56	6.52	6.67	7.40	0.78
I- 3	8.79	9.31	8.47	9.30	8.51	7.92	7.37	7.04	7.43	7.31	8.15	0.80
I- 4	8.88	9.70	8.84	8.89	9.30	7.21	7.18	7.07	7.48	7.13	8.17	0.99
I- 5	7.63	9.13	8.10	8.43	7.94	6.67	6.63	*****	6.65	*****	7.65	0.87
I- 6	7.63	9.21	7.96	8.66	9.00	*****	6.63	*****	6.76	6.61	7.81	1.01
I- 7	7.77	9.19	7.87	7.90	9.30	*****	*****	*****	6.49	*****	8.09	0.95
I- 8	8.26	10.08	9.01	9.30	8.85	7.04	7.17	6.65	7.15	7.18	8.07	1.12
I- 9	8.88	10.75	9.43	10.50	9.71	6.67	7.68	7.47	7.99	7.71	8.68	1.31
I-10	9.25	11.60	10.05	11.23	9.44	7.79	8.61	8.13	8.56	8.54	9.32	1.22
I-11	9.90	12.20	10.16	12.43	10.67	8.29	8.67	8.17	8.77	8.70	9.80	1.48
I-12	10.48	12.86	11.11	13.32	11.52	8.17	9.39	8.92	9.49	9.47	10.47	1.62
I-13	10.68	13.17	11.49	*****	12.20	8.72	9.90	9.42	10.00	9.76	10.59	1.35
I-14	11.56	*****	12.43	*****	13.14	9.37	10.83	10.34	10.87	10.71	11.16	1.12
I-15	12.78	*****	13.27	*****	*****	10.37	11.78	11.35	11.80	11.43	11.83	0.88
I-16	*****	*****	*****	*****	*****	11.24	12.88	12.44	12.80	12.62	12.40	0.60
I-17	*****	*****	*****	*****	*****	12.14	*****	13.30	*****	*****	12.72	0.58
I-18	*****	*****	*****	*****	*****	13.11	*****	*****	*****	*****	13.11	0.0
I-19	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	0.0	0.0
I-20	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	0.0	0.0
GROUP												
MEAN	9.19	10.39	9.59	9.69	9.69	8.76	8.54	8.83	8 [illegible]	8.59		
S.D.	1.536	1.492	1.718	1.714	1.564	2.003	1.949	2.164	1 [illegible]	1.881		

***** ITEM DELTAS COMPUTED ONLY IF (1) .05 ≤ P ≤ .95
AND (2) MORE THAN 50% OF THE GROUP RESPONDED TO THE [illegible]

APPENDIX G

Standardized D-Values

TABLE G-1
Standardized D-Values
VOCABULARY

ITEM	AI	AA	MA	PR	DL	OR	WE	WS	WW	ITEM MEAN	ITEM S.D.
I- 1	1.07	0.37	1.45	-1.16	0.46	0.88	-1.17	-0.77	-1.15	0.00	1.00
I- 2	1.32	0.04	0.48	0.73	-2.28	0.20	-0.12	0.58	-0.94	-0.00	1.00
I- 3	1.31	1.18	0.95	-0.52	0.45	-0.19	-1.62	-0.20	-1.35	0.00	1.00
I- 4	1.32	0.97	0.73	-1.44	-1.26	0.17	-0.94	0.97	-0.52	-0.00	1.00
I- 5	0.31	-0.48	1.39	0.23	1.22	0.91	-0.93	-1.33	-1.32	0.00	1.00
I- 6	-0.24	-0.51	-0.18	-1.64	-1.12	1.91	0.58	0.60	0.59	-0.00	1.00
I- 7	0.69	0.10	1.18	0.76	0.91	-0.13	-1.69	-0.13	-1.68	0.00	1.00
I- 8	-1.18	-0.13	1.59	1.78	-0.56	-0.11	-0.95	0.32	-0.75	0.00	1.00
I- 9	-0.02	0.39	-0.17	0.64	-1.36	1.96	-0.35	0.45	-1.54	0.0	1.00
I-10	-0.38	0.11	1.70	-0.98	1.15	0.93	-0.66	-0.39	-1.48	0.00	1.00
I-11	-0.29	-0.04	0.22	2.19	0.67	-0.47	-1.35	0.28	-1.22	0.00	1.00
I-12	1.21	-0.65	0.90	-1.11	1.67	0.07	-1.42	-0.15	-0.51	0.00	1.00
I-13	-0.48	-0.31	-0.22	-1.12	-1.84	1.04	1.12	1.02	0.80	-0.00	1.00
I-14	-0.42	-0.37	-0.60	-0.62	-1.81	1.76	0.37	0.81	0.88	-0.00	1.00
I-15	0.38	1.66	0.99	-1.06	-1.20	0.80	-1.11	0.30	-0.76	-0.00	1.00
GROUP											
MEAN	0.31	0.16	0.69	-0.22	-0.33	0.65	-0.68	0.16	-0.73		
S.D.	0.783	0.644	0.712	1.159	1.266	0.767	0.311	0.633	0.821		

***** INDICATES MISSING ITEM D-VALUE

[illegible]BLE G-2

Standa[illegible]ized D-Values

PICTURE-NUMBER

ITEM	AI	AA	MA	PR	CL	OR	WE	WS	WW	ITEM MEAN	ITEM S.D.
I- 1	0.02	-1.31	-1.32	-1.14	-0.18	1.26	0.83	0.58	1.26	-0.00	1.00
I- 2	-0.41	0.01	-0.91	-1.35	-1.29	1.21	1.23	0.31	1.20	-0.00	1.00
I- 3	-0.56	-0.52	-1.01	-1.26	-0.83	1.74	1.00	0.53	0.91	-0.00	1.00
I- 4	-0.43	-0.36	-1.24	-0.96	-0.93	1.98	0.74	0.33	0.87	-0.00	1.00
I- 5	0.07	-0.55	-1.58	0.13	-1.48	1.11	1.05	-0.04	1.29	-0.00	1.00
I- 6	-0.74	-0.79	-1.48	-0.69	-0.51	1.03	1.33	0.46	1.37	-0.00	1.00
I- 7	-0.20	0.16	-0.98	-0.44	-1.76	1.87	0.44	-0.08	0.99	-0.00	1.00
I- 8	-0.13	-0.03	-1.88	-0.37	-0.99	0.24	1.64	0.36	1.20	-0.00	1.00
I- 9	-1.22	*****	-1.17	-1.38	0.87	0.89	1.14	0.32	0.55	-0.00	1.00
I-10	-1.04	*****	-1.72	*****	0.43	1.16	0.49	-0.35	1.04	0.0	1.00
I-11	-0.88	*****	-0.81	*****	-1.47	0.14	0.91	0.65	1.46	-0.00	1.00
I-12	-1.66	*****	*****	*****	*****	1.08	0.43	-0.60	0.75	0.00	1.00
I-13	-1.11	*****	*****	*****	-0.45	-1.26	0.67	0.74	1.41	0.00	1.00
I-14	*****	*****	*****	*****	*****	-1.56	0.31	0.03	1.22	0.0	1.00
I-15	*****	*****	*****	*****	*****	-1.52	1.01	-0.27	0.78	0.00	1.00
I-16	-0.50	-1.30	-0.15	-1.39	-0.72	0.80	1.30	0.58	1.38	-0.00	1.00
I-17	-1.26	-0.60	-0.93	-0.17	-0.91	1.90	0.61	0.20	1.15	-0.00	1.00
I-18	-0.94	-0.59	-0.39	-1.42	-0.92	1.42	0.75	0.90	1.17	-0.00	1.00
I-19	0.06	-1.76	-1.00	-0.80	-0.26	0.78	1.16	0.36	1.46	-0.00	1.00
I-20	-1.44	-1.24	-1.05	0.24	-0.24	1.24	0.99	0.24	1.27	-0.00	1.00
I-21	-0.21	-1.20	-1.47	-0.46	-0.69	1.06	1.27	0.36	1.34	-0.00	1.00
I-22	-1.07	-1.08	-0.69	0.12	-1.23	0.78	1.13	0.39	1.64	-0.00	1.00
I-23	-1.22	-0.56	-1.18	1.67	-0.56	-0.26	1.16	-0.15	1.11	-0.00	1.00
I-24	-1.49	-0.10	-1.63	-0.23	-0.30	1.10	0.87	0.42	1.35	-0.00	1.00
I-25	-0.38	-0.87	-1.58	*****	-0.78	1.31	1.12	0.20	0.99	-0.00	1.00
I-26	-0.95	0.28	-1.38	-0.50	-1.31	1.27	1.28	0.52	0.78	-0.00	1.00
I-27	-1.21	*****	-1.00	*****	-1.02	0.82	0.99	0.07	1.36	0.00	1.00
I-28	-0.53	*****	-1.61	*****	-1.11	1.11	0.89	0.43	0.82	-0.00	1.00
I-29	-0.99	*****	-1.61	-0.33	1.11	1.64	-0.00	-0.35	0.53	-0.00	1.00
I-30	-0.67	*****	-1.09	*****	-1.45	0.53	0.69	0.49	1.50	-0.00	1.00
GROUP											
MEAN	-0.75	-0.65	-1.19	-0.54	-0.70	0.83	0.91	0.25	1.14		
S.D.	0.484	0.551	0.404	0.732	0.677	0.904	0.348	0.346	0.282		

***** INDICATES MISSING ITEM D-VALUE

TABLE G-3
Standardized D-Values
READING

ITEM	AI	AA	MA	PR	DL	DR	WE	WS	WW	ITEM MEAN	ITEM S.D.
I- 1	1.07	-1.06	0.44	-0.18	0.50	1.92	-1.23	-0.72	-0.75	0.00	1.00
I- 2	1.80	-1.15	-0.82	-1.23	0.69	1.25	-0.15	0.05	-0.42	-0.00	1.00
I- 3	1.95	-1.26	-0.06	-0.66	1.30	-0.69	-0.47	-0.67	0.57	-0.00	1.00
I- 4	0.14	-2.59	0.66	-0.53	0.39	1.02	0.07	0.42	0.42	-0.00	1.00
I- 5	2.04	-1.44	0.69	-1.44	-0.17	0.23	0.29	-0.18	-0.04	-0.00	1.00
I- 6	0.99	1.06	1.40	-0.65	0.82	-0.99	-0.26	-1.10	-1.27	0.00	1.00
I- 7	0.75	2.01	0.35	-0.86	0.14	0.42	-0.66	-0.53	-1.62	0.00	1.00
I- 8	0.94	1.00	0.72	1.25	0.24	-1.71	-0.64	-0.70	-0.92	0.00	1.00
I- 9	-0.39	-1.48	1.83	0.37	0.54	0.92	-1.21	-0.62	-0.03	0.00	1.00
I-10	0.24	-1.10	1.39	-1.76	1.19	0.55	0.24	0.20	-0.95	-0.00	1.00
I-11	0.08	-0.10	1.89	-1.88	0.92	-0.14	-0.70	0.47	-0.56	-0.00	1.00
I-12	0.97	-0.96	0.01	0.33	0.21	2.05	-1.20	-1.14	-0.27	-0.00	1.00
I-13	0.40	0.71	0.21	0.17	1.28	1.04	-0.76	-1.13	-1.42	0.00	1.00
I-14	0.30	-0.17	0.38	-2.58	1.26	0.49	0.00	0.48	-0.17	-0.00	1.00
I-15	0.40	-0.30	0.03	-2.17	-0.91	1.49	0.88	0.19	0.40	-0.00	1.00
I-16	-0.41	-0.11	1.10	-0.23	1.44	1.17	-0.14	-1.17	-1.65	0.00	1.00
I-17	-0.56	-0.48	-0.28	-2.15	-0.20	0.57	1.32	1.10	0.68	-0.00	1.00
I-18	-0.81	0.97	0.57	1.81	0.82	-0.37	-0.83	-1.03	-1.12	0.00	1.00
I-19	-1.40	1.23	0.20	0.44	-0.00	1.70	-1.06	0.04	-1.13	0.00	1.00
I-20	-0.52	1.00	0.47	0.69	1.65	0.14	-0.74	-1.10	-1.59	0.00	1.00
GROUP											
MEAN	0.40	-0.21	0.56	-0.56	0.61	0.55	-0.37	-0.36	-0.62		
S.D.	0.910	1.156	0.678	1.175	0.640	0.959	0.678	0.668	0.779		

***** INDICATES MISSING ITEM D-VALUE

TABLE G-4
Standardized D-Values
LETTER GROUPS

ITEM	AI	AA	MA	PR	DL	JR	WE	WS	WW	ITEM MEAN	ITEM S.D.
I- 1	0.24	-1.13	0.58	-1.55	1.99	0.48	-0.13	0.32	-0.79	0.00	1.00
I- 2	1.80	-1.65	-0.05	-0.36	-0.89	1.18	-0.69	0.39	0.26	-0.00	1.00
I- 3	-2.05	-0.82	0.48	1.64	0.10	0.05	-0.62	0.82	0.40	0.0	1.00
I- 4	-1.75	0.21	1.21	-0.13	-0.57	1.03	*****	*****	*****	0.00	1.00
I- 5	2.27	0.80	0.43	-0.08	-0.58	-0.40	-1.13	-0.22	-1.09	0.00	1.00
I- 6	1.49	-0.58	0.72	0.15	1.42	-0.85	-0.73	-1.63	0.01	0.00	1.00
I- 7	2.01	-0.08	0.26	-1.77	0.49	-1.02	-0.22	0.60	-0.25	-0.00	1.00
I- 8	-0.06	0.16	0.30	0.58	-1.43	0.34	-1.94	1.53	0.53	0.00	1.00
I- 9	0.57	-0.20	0.25	-0.75	2.48	-0.91	-0.51	-0.07	-0.86	0.00	1.00
I-10	2.39	-1.38	-0.41	-0.31	0.48	0.36	-0.65	-0.57	0.09	0.00	1.00
I-11	0.15	-0.88	0.05	0.01	2.11	1.02	-0.78	-0.27	-1.41	0.00	1.00
I-12	-2.12	-0.25	0.75	0.75	1.07	*****	*****	-0.38	0.18	0.00	1.00
I-13	0.59	-1.46	0.23	-1.53	1.68	*****	0.01	0.54	-0.05	0.00	1.00
I-14	1.43	0.31	-0.32	0.97	1.41	-1.08	-1.25	-0.58	-0.89	0.00	1.00
I-15	-0.32	1.71	-0.33	-0.04	1.05	-2.00	0.05	0.56	-0.67	-0.00	1.00
I-16	0.61	0.32	0.64	1.96	0.31	-1.28	-1.26	-0.43	-0.87	0.00	1.00
I-17	0.15	1.18	1.50	0.52	0.60	-0.40	-1.66	-0.89	-1.00	0.00	1.00
I-18	0.80	-1.80	-1.07	1.07	-0.52	-0.72	0.24	1.04	0.95	0.00	1.00
I-19	-0.28	-1.17	-0.71	1.25	2.02	-0.79	0.58	-0.28	-0.61	0.00	1.00
I-20	-0.16	0.28	0.27	2.23	0.78	-1.37	-0.73	-0.58	-0.71	0.00	1.00
I-21	-0.34	0.91	0.99	1.82	-0.04	-1.67	-0.71	-0.45	-0.50	0.00	1.00
I-22	-2.30	-0.51	-0.43	*****	1.00	-0.41	0.75	0.83	0.86	0.00	1.00
I-23	-1.94	-0.11	-0.26	*****	1.48	-0.38	0.57	1.12	-0.43	0.00	1.00
I-24	-2.03	1.41	0.65	*****	0.18	-0.98	0.10	0.38	0.34	0.00	1.00
I-25	-1.99	*****	0.93	*****	0.69	-1.01	0.25	0.50	0.63	0.00	1.00
GROUP											
MEAN	-0.03	-0.20	0.27	0.30	0.69	-0.47	-0.45	0.10	-0.25		
S.D.	1.452	0.958	0.602	1.121	0.996	0.854	0.702	0.724	0.652		

***** INDICATES MISSING ITEM D-VALUE

TABLE G-5

Standardized D-Values

MATHEMATICS

ITEM	AI	AA	MA	PR	CL	CR	WE	WS	WW	ITEM MEAN	ITEM S.D.
I- 1	0.66	0.09	2.01	-0.42	0.97	-1.18	-1.08	-0.89	-0.16	0.00	1.00
I- 2	-0.45	-0.94	-0.65	-0.61	-1.50	0.45	1.08	1.13	1.49	-0.00	1.00
I- 3	0.60	0.38	-0.35	1.49	-0.35	1.39	-1.19	-1.60	-0.38	-0.00	1.00
I- 4	0.94	-0.25	-0.85	0.29	-0.40	1.80	0.64	-0.35	-1.82	0.00	1.00
I- 5	1.78	0.33	0.45	0.74	0.41	-1.91	-0.56	-0.74	-0.51	0.00	1.00
I- 6	-0.34	-0.31	0.87	-0.56	1.05	2.03	-1.04	-0.89	-0.81	0.00	1.00
I- 7	-1.05	0.20	1.79	1.05	0.98	-0.87	-1.11	-0.27	-0.73	0.00	1.00
I- 8	0.63	0.81	0.98	-0.47	0.90	-2.42	-0.18	-0.24	-0.02	-0.00	1.00
I- 9	0.32	-1.04	-0.82	2.49	-0.06	0.33	-0.82	-0.40	0.01	0.00	1.00
I-10	0.24	0.54	0.43	0.77	0.80	-2.66	0.08	-0.30	0.06	0.00	1.00
I-11	-1.49	1.05	0.40	0.60	-1.12	1.82	-0.42	-0.59	-0.24	0.00	1.00
I-12	2.04	-0.44	0.01	-0.11	0.69	-2.03	-0.01	0.04	-0.18	-0.00	1.00
I-13	0.79	0.58	0.32	1.62	-0.36	-2.21	-0.51	-0.17	-0.06	0.00	1.00
I-14	-0.32	2.32	0.27	0.44	-1.54	-0.71	-0.15	0.22	-0.55	0.00	1.00
I-15	0.23	-1.09	1.12	-0.90	2.01	-1.27	-0.06	-0.12	0.08	0.00	1.00
I-16	1.63	0.74	0.16	0.17	0.16	-2.33	-0.18	-0.49	0.14	0.00	1.00
I-17	0.78	-0.02	0.28	1.61	-0.24	-2.37	-0.01	-0.16	0.13	-0.00	1.00
I-18	-0.17	-0.69	0.55	0.62	2.39	-0.27	-0.99	-0.61	-0.82	0.00	1.00
I-19	0.87	-0.15	0.04	0.94	-1.99	-1.51	0.60	0.49	0.71	-0.00	1.00
I-20	0.60	0.69	0.86	1.34	0.84	-0.70	-1.31	-1.25	-1.08	0.00	1.00
I-21	0.93	1.27	0.37	0.79	-0.44	-2.27	-0.47	-0.36	0.20	0.00	1.00
I-22	1.14	1.22	0.86	0.38	-0.27	-2.18	-0.44	-0.23	-0.48	0.00	1.00
I-23	0.48	0.31	0.89	0.26	1.35	-2.38	-0.39	-0.40	-0.12	0.00	1.00
I-24	0.48	0.77	-0.01	2.02	0.57	-0.74	-1.07	-1.12	-0.91	0.00	1.00
I-25	1.11	-0.20	-0.21	-0.43	0.56	-2.36	-0.03	0.32	1.24	0.0	1.00
GROUP											
MEAN	0.50	0.25	0.39	0.56	0.22	-0.98	-0.38	-0.36	-0.19		
S.D.	0.802	0.785	0.690	0.864	1.048	1.473	0.602	0.559	0.682		

***** INDICATES MISSING ITEM D-VALUE

TABLE G-6

Standardized D-Values

MOSAIC COMPARISONS

ITEM	AI	AA	MA	PR	OL	OR	WE	WS	WW	ITEM MEAN	ITEM S.D.
I- 1	-1.55	0.25	-1.49	0.30	-0.18	1.66	0.97	0.52	-0.48	-0.00	1.00
I- 2	-0.52	0.51	-0.60	-0.63	-1.68	*****	1.71	0.26	0.95	-0.00	1.00
I- 3	-0.11	-0.79	-1.10	0.40	-1.25	2.27	0.51	0.12	-0.06	0.00	1.00
I- 4	0.12	0.02	-0.93	-1.28	1.11	1.80	0.12	0.41	-1.36	0.00	1.00
I- 5	*****	*****	*****	*****	*****	*****	*****	*****	*****	0.0	0.0
I- 6	*****	*****	*****	*****	*****	*****	*****	*****	*****	0.0	0.0
I- 7	*****	*****	*****	*****	*****	*****	*****	*****	*****	0.0	0.0
I- 8	-1.94	1.59	0.25	0.87	-0.73	0.81	0.25	-0.67	-0.43	0.00	1.00
I- 9	-1.13	1.27	-0.23	1.73	0.24	-1.68	0.03	0.17	-0.40	0.00	1.00
I-10	-1.40	1.45	-0.20	1.45	-1.47	-0.50	0.61	0.02	0.05	0.00	1.00
I-11	-0.97	1.36	-0.82	2.18	-0.10	-0.48	-0.20	-0.46	-0.51	0.00	1.00
I-12	-0.93	1.18	-0.32	2.05	0.19	-1.48	-0.08	-0.32	-0.29	0.00	1.00
I-13	-1.29	1.70	-0.18	*****	1.06	-1.43	0.39	0.07	-0.30	0.00	1.00
I-14	-1.07	*****	0.14	*****	1.49	-1.71	0.78	0.30	0.07	0.00	1.00
I-15	-0.39	*****	0.24	*****	*****	-1.83	1.40	0.69	-0.11	-0.00	1.00
I-16	*****	*****	*****	*****	*****	-1.63	1.08	0.40	0.14	-0.00	1.00
I-17	*****	*****	*****	*****	*****	0.0	*****	*****	*****	0.0	0.0
I-18	*****	*****	*****	*****	*****	*****	*****	*****	*****	0.0	0.0
I-19	*****	*****	*****	*****	*****	*****	*****	*****	*****	0.0	0.0
I-20	*****	*****	*****	*****	*****	*****	*****	*****	*****	0.0	0.0
GROUP											
MEAN	-0.93	0.85	-0.44	0.79	-0.12	-0.32	0.58	0.11	-0.21		
S.D.	0.581	0.776	0.533	1.133	1.028	1.438	0.563	0.380	0.499		

***** INDICATES MISSING ITEM D-VALUE